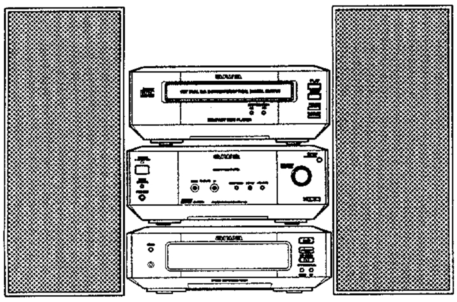
aiwa

aiwa SERVICE

XR-M98
XR-M99

SERVICE MANUAL



CD STEREO SYSTEM

- BASIC CD MECHANISM : 3ZG-3 E3NC
- TYPE: 98<K>, 99<EZ>

SYSTEM	AMPLIFIER	TUNER	CD PLAYER	MD RECORD	DECK	SPEAKERS	REMOTE CONTROL
XR-M98	MX-LM98	TX-LM98	DX-LM99	AM-LM99 (OPTIONAL)	FX-LM99 (OPTIONAL)	SX-LM99	RC-ZAT04
XR-M99	MX-LM99	TX-LM99					

TABLE OF CONTENTS

SPECIFICATIONS 3
ACCESSORIES / PACKAGE LIST 4
PROTECTION OF EYES FROM LASER BEAM DURING SERVICING 5
PRECAUTION TO REPLACE OPTICAL BLOCK 5

MODEL NO. MX-LM98/99

DISASSEMBLY INSTRUCTIONS 6
ELECTRICAL MAIN PARTS LIST ..... 7 ~ 8
CHIP RESISTOR PART CODE 9
TRANSISTOR ILLUSTRATION 10
WIRING – 1 (SPK) ..... 11 ~ 12
WIRING – 2 (PWR AMP/ FRONT/ HP/ LED) ..... 13 ~ 14
SCHEMATIC DIAGRAM – 1 (PWR AMP/ FRONT/ SPK/ HP/ LED) ..... 15 ~ 16
WIRING – 3 (PT) ..... 17 ~ 18
SCHEMATIC DIAGRAM – 2 (PT) 19
MECHANICAL PARTS LIST 1 / 1 20
MECHANICAL EXPLODED VIEW 1 / 1 ..... 21 ~ 22

MODEL NO. TX-LM98/99

DISASSEMBLY INSTRUCTIONS 23
ELECTRICAL MAIN PARTS LIST ..... 24 ~ 27
CHIP RESISTOR PART CODE 27
TRANSISTOR ILLUSTRATION 28
WIRING – 1 (MAIN/ FRONT/ LED/ CONN/ JACK) ..... 29 ~ 30
SCHEMATIC DIAGRAM – 1 (MAIN/ FRONT/ LED/ CONN/ JACK) ..... 31 ~ 33
IC BLOCK DIAGRAM – 1 ..... 34 ~ 35
WIRING – 2 (TUNER)<K> 36
SCHEMATIC DIAGRAM – 2 (TUNER)<K> ..... 37 ~ 38
SCHEMATIC DIAGRAM – 3 (TUNER)<EZ> ..... 39 ~ 40
WIRING – 3 (TUNER)<EZ> 41
IC BLOCK DIAGRAM – 2 ..... 42 ~ 43
FL(13-ST-36GNK) GRID ASSIGNMENT/ ANODE CONNECTION/ PIN CONNECTION ..... 44 ~ 45
IC DESCRIPTION ..... 46 ~ 47
ADJUSTMENT – 1 (K) 48
ADJUSTMENT – 2 (EZ) 49
PRACTICAL SERVICE FIGURE 50
MECHANICAL EXPLODED VIEW 1 / 1 ..... 51 ~ 52
MECHANICAL PARTS LIST 1 / 1 53

MODEL NO. DX-LM99

DISASSEMBLY INSTRUCTIONS 54
ELECTRICAL MAIN PARTS LIST ..... 55 ~ 56
CHIP RESISTOR PART CODE 56
TRANSISTOR ILLUSTRATION 56
WIRING –1 (MAIN/ FRONT/ SUB/ REAR/ LED/ DRIVE/LOAD) ..... 57 ~ 58
SCHEMATIC DIAGRAM –1 (MAIN/ FRONT/ SUB/ REAR/ LED/ DRIVE/LOAD) ..... 59 ~ 61
IC DESCRIPTION ..... 62 ~ 66
IC BLOCK DIAGRAM 67
ADJUSTMENT 68
TEST MODE 69
MECHANICAL PARTS LIST 1 / 1 70
MECHANICAL EXPLODED VIEW 1 / 1 ..... 71 ~ 72
CD MECHANISM EXPLODED VIEW 1 / 2 73
CD MECHANISM PARTS LIST 1 / 2 74
CD MECHANISM EXPLODED VIEW 2 / 2 75
CD MECHANISM PARTS LIST 2 / 2 75

SPEAKER DISASSEMBLY INSTRUCTIONS 76
SPEAKER PARTS LIST<SX-LM99> 77

SPECIFICATIONS

<STEREO TUNER TX-LM98/99>

<FM tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<MW tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 µV/m
Antenna	Loop antenna

<LW tuner section>

Tuning range	144 kHz to 290 kHz
Usable sensitivity	1400 µV/m
Antenna	Loop antenna

<Input>

AUX IN	500 mV

<General>

Dimensions (Wx H x D)	210 x 71 x 247 mm
Weight	0.9 kg

<STEREO INTEGRATED AMPLIFIER MX-LM98/99>

<Amplifier section>

Power output	Rated: 25 W + 25 W (6 ohms, T.H.D. 1%, 1 kHz/DIN 45500) Reference: 30 + 30 W (6 ohms, T.H.D. 10%, 1kHz/DIN 45324) DIN MUSIC POWER 72 W + 72 W

Outputs

SUPER WOOFER	1.4 V
SPEAKERS	Accept speakers of 6 ohms or more
PHONES	Stereo mini jack: accepts headphones of 16 ohms or more

<General>

Power requirements	230 V AC, 50 Hz
Power consumption	87 W (MX-LM98) 81 W (MX-LM99)
Standby power consumption	3.0 W (power economizing mode set to ON)
Dimensions (Wx H x D)	210 x 81 x 282.5 mm
Weight	3.0 kg

<COMPACT DISC PLAYER DX-LM99>

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	90 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Output>

DIGITAL OUT

<General>

Dimensions (Wx H x D)	210 x 81 x 244.5 mm
Weight	1.3 kg

<STEREO CASSETTE DECK FX-LM99>

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CrO_2 tape: 50 Hz to 16000 Hz Normal tape: 50 Hz to 15000 Hz
Signal-to-noise ratio	60 dB (CrO_2 tape peak level)
Recording system	AC bias
Heads	Recording/playback head x 1 Erase head x 2

<General>

Dimensions (W x H X D)	210 x 71x 243 mm
Weight	1.3 kg

<MINI DISC RECORDER AM-LM99>

<MD recorder section>

Scanning method	Non-contact optical scanner (Semiconductor laser application)
Recording system	Magnetic polarity modulation overwrite system
Rotation speed	Approx. 400 to 900 rpm(CLV)
Sampling frequency	44.1 kHz
No. of channels	Stereo: 2 channels Monaural: 1 channel
A-D, D-A converter	1-bit
Frequency	20 to 20000 Hz +0.2 - –1.5dB
Wow and flutter	Unmeasurable

<Input>

AUX DIGITAL IN	Sampling frequency: 48 kHz/ 32 kHz Optical input level: more than –21 dBm

<General>

Dimensions (Wx H x D)	210 x 71 x 243 mm
Weight	1.3 kg

<SPEAKER SYSTEM SX- LM99>

Cabinet type	2 way, bass reflex (magnetic shielded type)
Speakers	Woofer: 100 mm cone type x 2 Tweeter: 22 mm dome type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	152 x 301 x 202 mm
Weight	3.0 kg

- Design and specifications are subject to change without notice.
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  Under license from BBE Sound, Inc.

ACCESSORIES / PACKAGE LIST

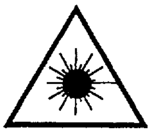
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-CLP-906-010		IB,EZ(9L)I<EZ>
1	8Z-CLP-905-010		IB,K(E)I<K>
2	87-A90-030-010		ANT,LOOP AM-NC C
3	87-A90-118-010		ANT,WIRE FM (Z)
4	8Z-CK4-962-010		RC UNIT,RC-ZAT04 (VS)

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!
Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

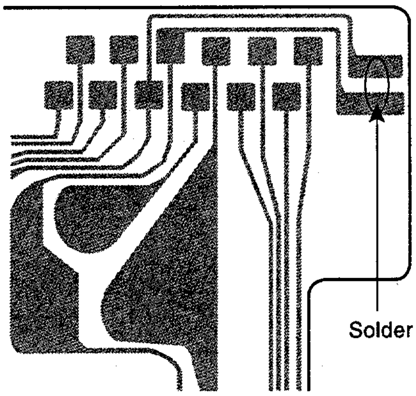
Precaution to replace Optical block

(KSS – 213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in right figure.

PICK-UP Assy P.C.B



MODEL NO.

MX-LM98/99

DISASSEMBLY INSTRUCTIONS

1. Top Panel and Side Panels L/R Removal

1) Remove 3 screws Ⓐ from the rear of unit. (See Fig-1)

2) Remove 2 screws Ⓑ from side panels L/R. (See Fig-1)

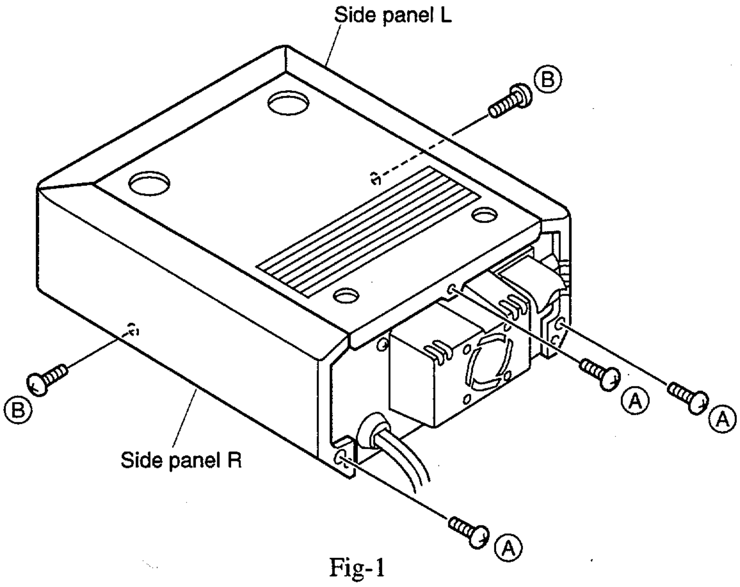

Side panel L
Ⓑ
Ⓐ
Ⓐ
Ⓑ
Side panel R
Ⓐ

Fig-1

3) Remove side panels L/R in the directions of arrows Ⓐ and Ⓑ. (See Fig-2)

4) Remove the tope panel in the direction of arrow Ⓒ. (See Fig-2)

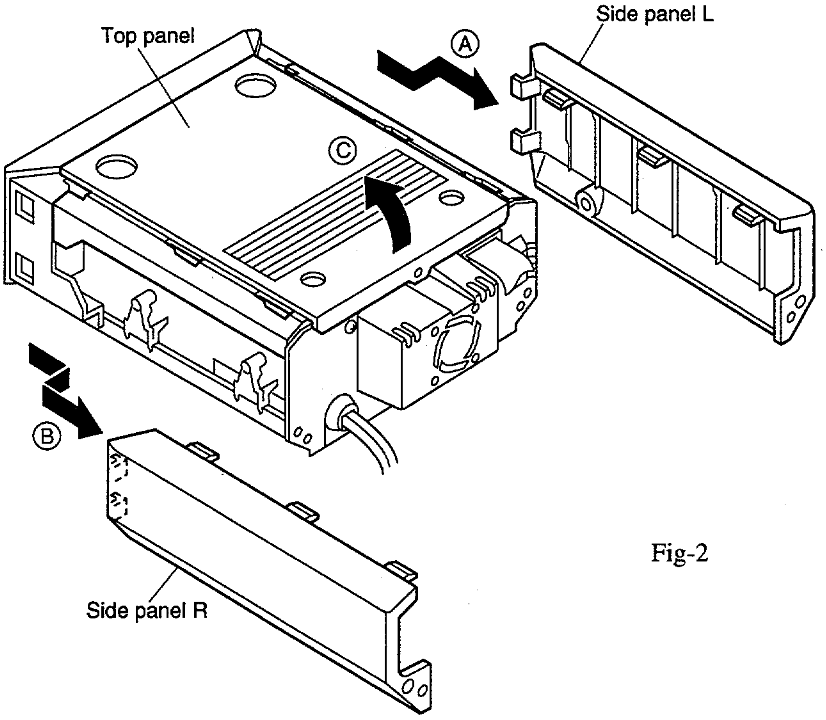

Top panel
Ⓐ
Side panel L
Ⓒ
Ⓑ
Side panel R

Fig-2

ELECTRICAL MAIN PARTS LIST (MX-LM98 / 99)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-001-642-010		IC,NJM78M12FA
TRANSISTOR			
	87-A30-076-080		C-TR,2SC3052F
	87-A30-075-080		C-TR,2SA1235F
	87-A30-268-040		C-TR,2SA1514K(S)
	87-A30-074-080		C-TR,RT1P 141C
	87-026-609-080		TR,KTA1266GR
	87-026-245-080		TR,DTC114ES
	87-A30-198-080		TR,KTC3199GR
	89-213-702-010		TR,2SB1370 (1.8W)
	87-A30-190-080		TR,CC5551
	87-A30-215-010		TR,2SD2025
	87-A30-214-010		TR,2SB1344
	87-A30-106-070		C-TR,CMBT5551
	87-A30-196-080		TR,2SC4115SRS
	87-A30-105-080		C-TR,RT1P 441C
	87-A30-087-080		C-FET,2SK2158
DIODE			
	87-A40-270-080		C-DIODE,MC2838
	87-A40-269-080		C-DIODE,MC2836
	87-A40-004-080		ZENER,MTZJ16A
	87-070-178-090		DIODE,1N5402-BD54
	87-070-274-080		DIODE,1N4003 SEM
	87-017-083-080		ZENER,HZS4C2
	87-A40-312-080		ZENER,DZ33M
	87-A40-488-080		DIODE,1SS244
	87-A40-291-080		DIODE,1N4148 (CPT)
	87-A40-299-080		ZENER,DZ5.1M
PWR AMP C.B			
C81	87-010-401-080		CAP, ELECT 1-50V
C82	87-010-263-080		CAP, ELECT 100-10V
C83	87-010-380-080		CAP, ELECT 47-16V
C84	87-010-378-040		CAP,E 10-16
C051	87-010-260-080		CAP, ELECT 47-25V
C052	87-010-403-080		CAP, ELECT 3.3-50V
C053	87-010-197-080		CAP, CHIP 0.01 DM
C123	87-A10-520-090		CAP,E 3300-35 M SMG
C124	87-010-917-090		CAP,E 3300-50 M SMG
C171	87-010-260-080		CAP, ELECT 47-25V
C172	87-010-260-080		CAP, ELECT 47-25V
C173	87-010-260-080		CAP, ELECT 47-25V
C174	87-010-260-080		CAP, ELECT 47-25V
C175	87-010-247-080		CAP, ELECT 100-50V
C176	87-010-247-080		CAP, ELECT 100-50V
C181	87-010-384-080		CAP, ELECT 100-25V
C182	87-010-384-080		CAP, ELECT 100-25V
C207	87-010-546-080		CAP, ELECT 0.33-50V
C208	87-010-546-080		CAP, ELECT 0.33-50V
C209	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C210	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C211	87-010-260-080		CAP, ELECT 47-25V
C212	87-010-260-080		CAP, ELECT 47-25V
C213	87-010-186-080		CAP,CHIP 4700P
C214	87-010-186-080		CAP,CHIP 4700P
C215	87-010-405-080		CAP, ELECT 10-50V
C216	87-010-405-080		CAP, ELECT 10-50V
C217	87-A10-946-080		C-CAP,S 220P-100 J CH
C218	87-A10-946-080		C-CAP,S 220P-100 J CH
C221	87-010-186-080		CAP,CHIP 4700P
C222	87-010-186-080		CAP,CHIP 4700P
C223	87-012-368-080		C-CAP,S 0.1-50 F
C224	87-012-368-080		C-CAP,S 0.1-50 F
C231	87-010-189-080		C-CAP,S 8200P-50 K B
C232	87-010-189-080		C-CAP,S 8200P-50 K B
C234	87-010-380-080		CAP, ELECT 47-16V
C235	87-A10-946-080		C-CAP,S 220P-100 J CH
C270	87-010-380-080		CAP, ELECT 47-16V
C271	87-010-112-080		CAP, ELECT 100-16V
CN101	87-A61-025-010		CONN,4P TKC-M4P-B1
CN102	87-099-186-010		CONN,6P EH V WHT
CN201	8Z-CE3-610-010		CONN ASSY,19P 52305-1911
CN202	87-A60-109-010		CONN,2P V S2M-2W
CN203	87-099-548-010		CONN,20P TKC-M020P-B
J202	87-099-801-010		JACK,PIN 1P BLK
JR101	87-005-564-080		C-COIL,2125 2.2UH K MLF2012
JW119	87-003-098-080		COIL,2.2UH K LAL02
L203	87-003-098-080		COIL,2.2UH K LAL02
L204	87-003-098-080		COIL,2.2UH K LAL02
L205	87-003-098-080		COIL,2.2UH K LAL02
⚠ R175	87-A90-247-080		PROTECTOR, 0.315A 60V 491
R239	87-A00-258-080		RES,M/F 0.22-1W J
R240	87-A00-258-080		RES,M/F 0.22-1W J
R241	87-A00-258-080		RES,M/F 0.22-1W J
R242	87-A00-258-080		RES,M/F 0.22-1W J
R243	87-A00-258-080		RES,M/F 0.22-1W J
R244	87-A00-258-080		RES,M/F 0.22-1W J
TH051	87-A91-042-080		C-THMS,100K 55001
TH052	87-A91-042-080		C-THMS,100K 55001
WH201	87-A61-039-010		CONN,19P V WHT 52328
FRONT C.B			
C301	87-010-197-080		CAP, CHIP 0.01 DM
C302	87-010-197-080		CAP, CHIP 0.01 DM
C303	87-010-260-080		CAP, ELECT 47-25V
CN301	88-805-020-790		CONN ASSY,2P 70MM
CN302	88-805-020-790		CONN ASSY,2P 70MM
CN304	87-A60-131-010		CONN,6P V FE
D302	87-A40-317-080		LED,SLR-342VCT31 RED
D303	87-A40-640-010		LED,SELU1E10CXM BLUE-EF
D304	87-A40-640-010		LED,SELU1E10CXM BLUE-EF
FC304	88-906-121-110		FF-CABLE,6P
S301	87-A91-402-010		SW,RTRY RE0121PVB25FINA1-T2
S302	87-A90-696-080		SW,TACT TS2103-03-430
S303	87-A90-696-080		SW,TACT TS2103-03-430
S304	87-A90-696-080		SW,TACT TS2103-03-430
S305	87-A90-696-080		SW,TACT TS2103-03-430
S306	87-A90-696-080		SW,TACT TS2103-03-430
S307	87-A90-696-080		SW,TACT TS2103-03-430
S308	87-A90-696-080		SW,TACT TS2103-03-430
S309	87-A90-696-080		SW,TACT TS2103-03-430
SPK C.B			
C125	87-010-196-080		CHIP CAPACITOR,0.1-25
C126	87-010-196-080		CHIP CAPACITOR,0.1-25
C127	87-010-196-080		CHIP CAPACITOR,0.1-25
C128	87-010-196-080		CHIP CAPACITOR,0.1-25
C129	87-010-928-090		CAP,E 4700-25 SMG
C130	87-010-384-080		CAP, ELECT 100-25V
C131	87-010-384-080		CAP, ELECT 100-25V
C151	87-010-196-080		CHIP CAPACITOR,0.1-25
C152	87-A11-233-090		CAP,E 4700-16 105 KMG
C153	87-010-196-080		CHIP CAPACITOR,0.1-25
C154	87-A10-105-080		CAP,E 1000-6.3 REA
C225	87-010-195-080		C-CAP,S 0.068-25 F
C226	87-010-195-080		C-CAP,S 0.068-25 F
C227	87-010-544-080		CAP, ELECT 0.1-50V
C228	87-010-544-080		CAP, ELECT 0.1-50V
C229	87-010-182-080		C-CAP,S 2200P-50 B
C230	87-010-182-080		C-CAP,S 2200P-50 B
CN103	87-049-469-010		CONN,4P V
CN204	87-A60-131-010		CONN,6P V FE
CN205	87-009-802-010		CONN,20P H BLK TKC-M
CN206	87-A60-624-010		CONN,7P V 2MM JMT

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
J203	87-A60-659-010		TERMINAL,SPKR 4P HSP-134V-05Z
L201	87-003-383-010		COIL,1UH-K
L202	87-003-383-010		COIL,1UH-K
⚠ PR103	87-026-681-080		PROTECTOR,5A 60V 491
⚠ PR104	87-026-681-080		PROTECTOR,5A 60V 491
⚠ PR151	87-A90-093-080		PROTECTOR,3A 491SERIES 60V
⚠ PR152	87-A90-093-080		PROTECTOR,3A 491SERIES 60V

PT C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
⚠ C101	87-A10-479-080		CAP,CER 2200P-250 M E KH
C104	87-010-387-080		CAP,E 470-25 SME
C105	87-010-403-080		CAP, ELECT 3.3-50V
CN104	87-A61-024-010		CONN,4P H BLK TKC-M
⚠ PT101	8Z-NF8-662-010		PT,SUB ZNF-8(E)
⚠ PT102	8Z-CE3-613-010		PT,EZ
⚠ RY101	87-A90-976-010		RELAY,AC12V SDT-S-112LMR
⚠ TM101	87-A60-317-010		TERMINAL, 1P MSC
⚠ TM102	87-A60-317-010		TERMINAL, 1P MSC

HP C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CN207	88-805-070-790		CONN ASSY,7P
J201	87-A60-420-010		JACK,3.5 ST (MSC)

LED (R) C.B

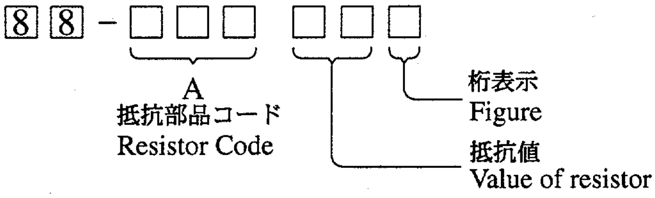
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CN306	87-A60-619-010		CONN,2P V 2MM JMT
D306	87-A40-640-010		LED,SELU1E10CXM BLUE-EF

LED (L) C.B

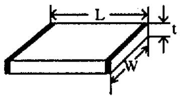
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CN305	87-A60-619-010		CONN,2P V 2MM JMT
D305	87-A40-640-010		LED,SELU1E10CXM BLUE-EF

Oチップ抵抗部品コード／CHIP RESISTOR PART CODE

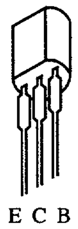
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding


8 8 - □□□ □□□
A
抵抗部品コード
Resistor Code
桁表示
Figure
抵抗値
Value of resistor

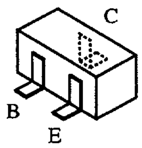
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A Resistor Code : A
				外形／Form	L	W	t	
1/16W	1005	±5%	CJ		1.0	0.5	0.35	104
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

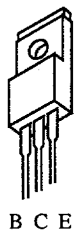
TRANSISTOR ILLUSTRATION (MX-LM98 / 99)



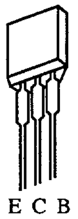
KTA1266GR



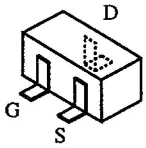
2SA1235F
CMBT5551
RT1P141C
2SC3052F
RT1P441C
2SA1514K



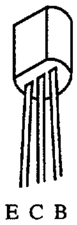
2SB1370
2SB1344
2SD2025



DTC114ES
KTC3199GR

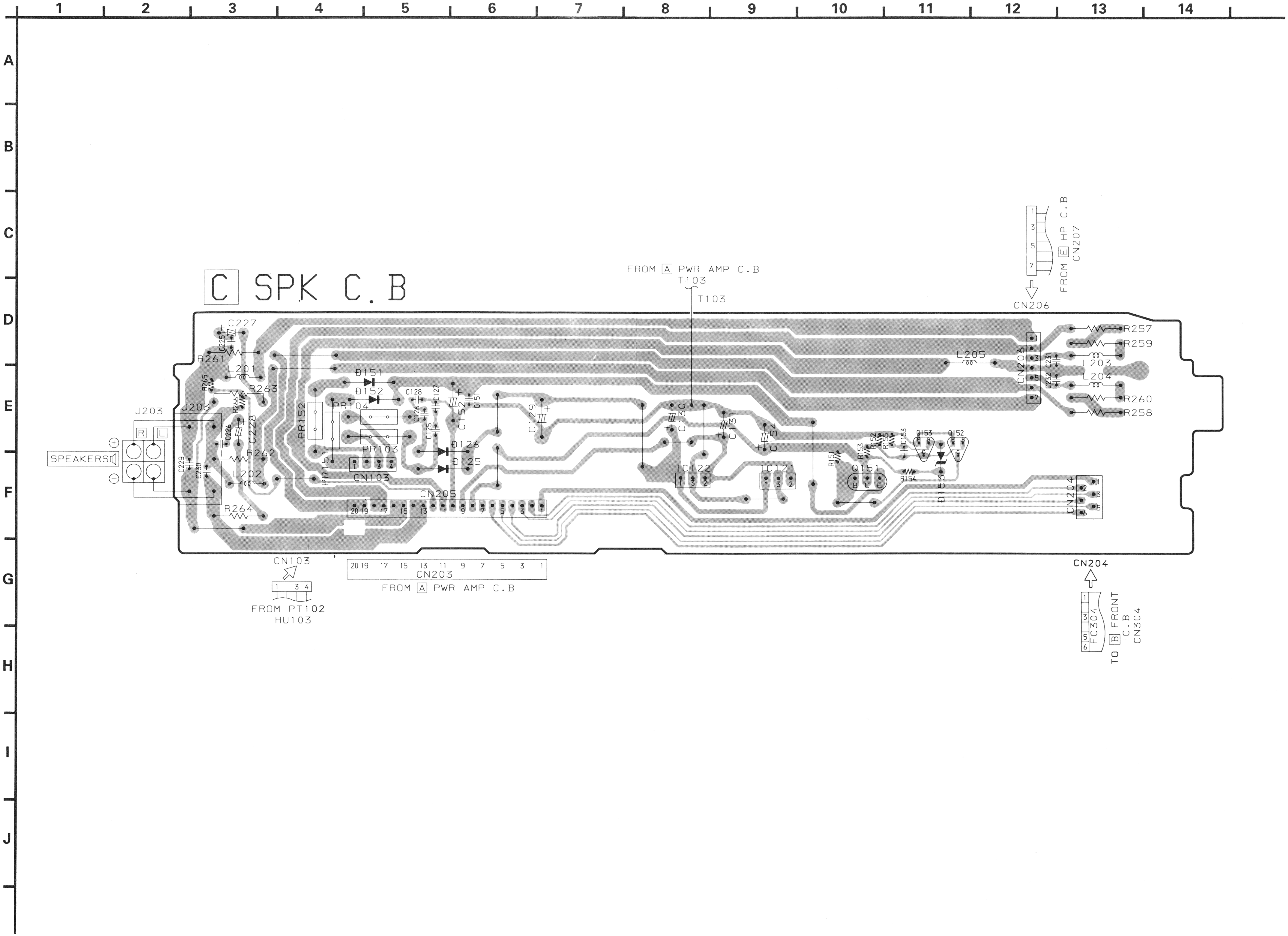


2SK2158

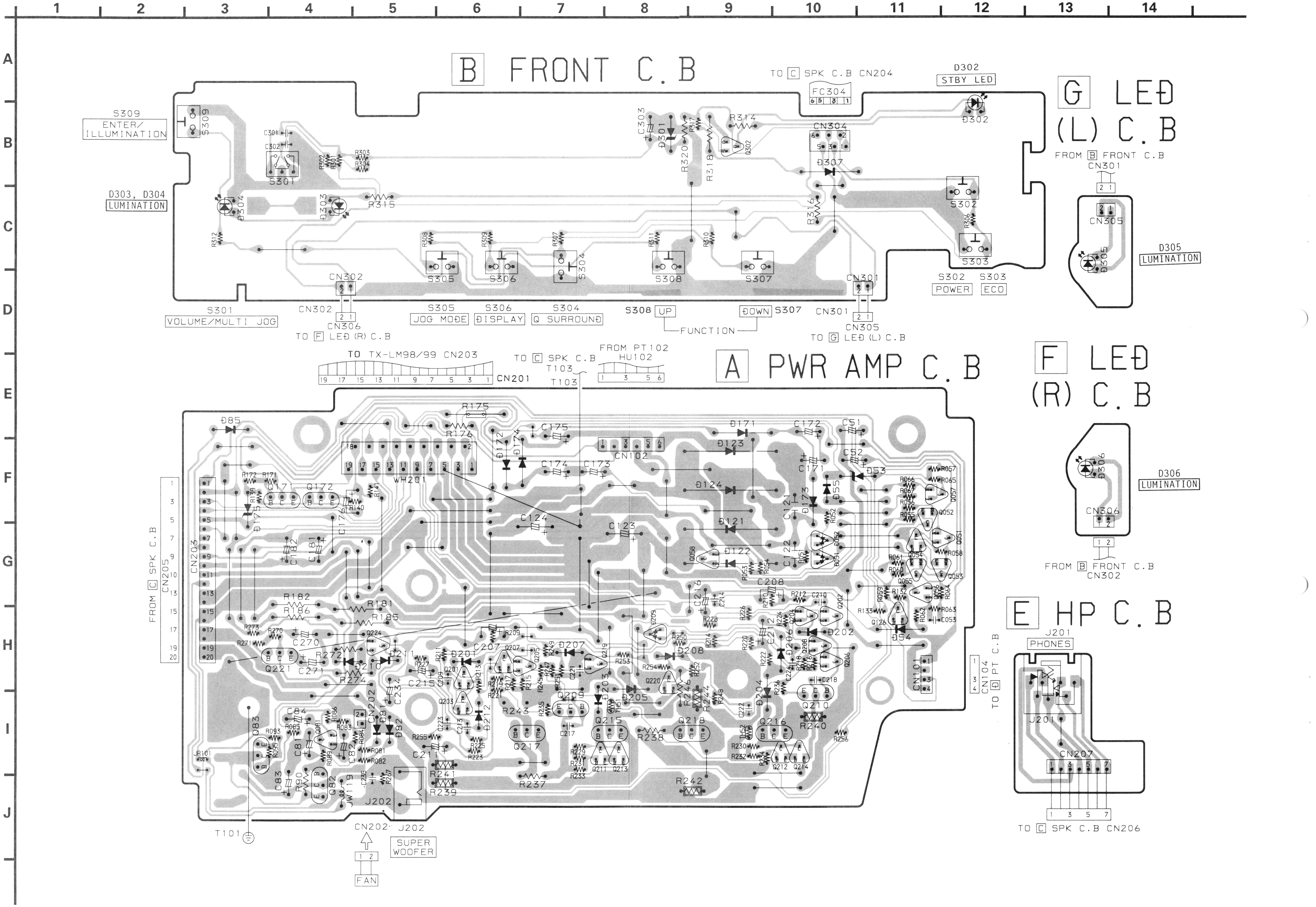


CC5551
2SC4115SRS

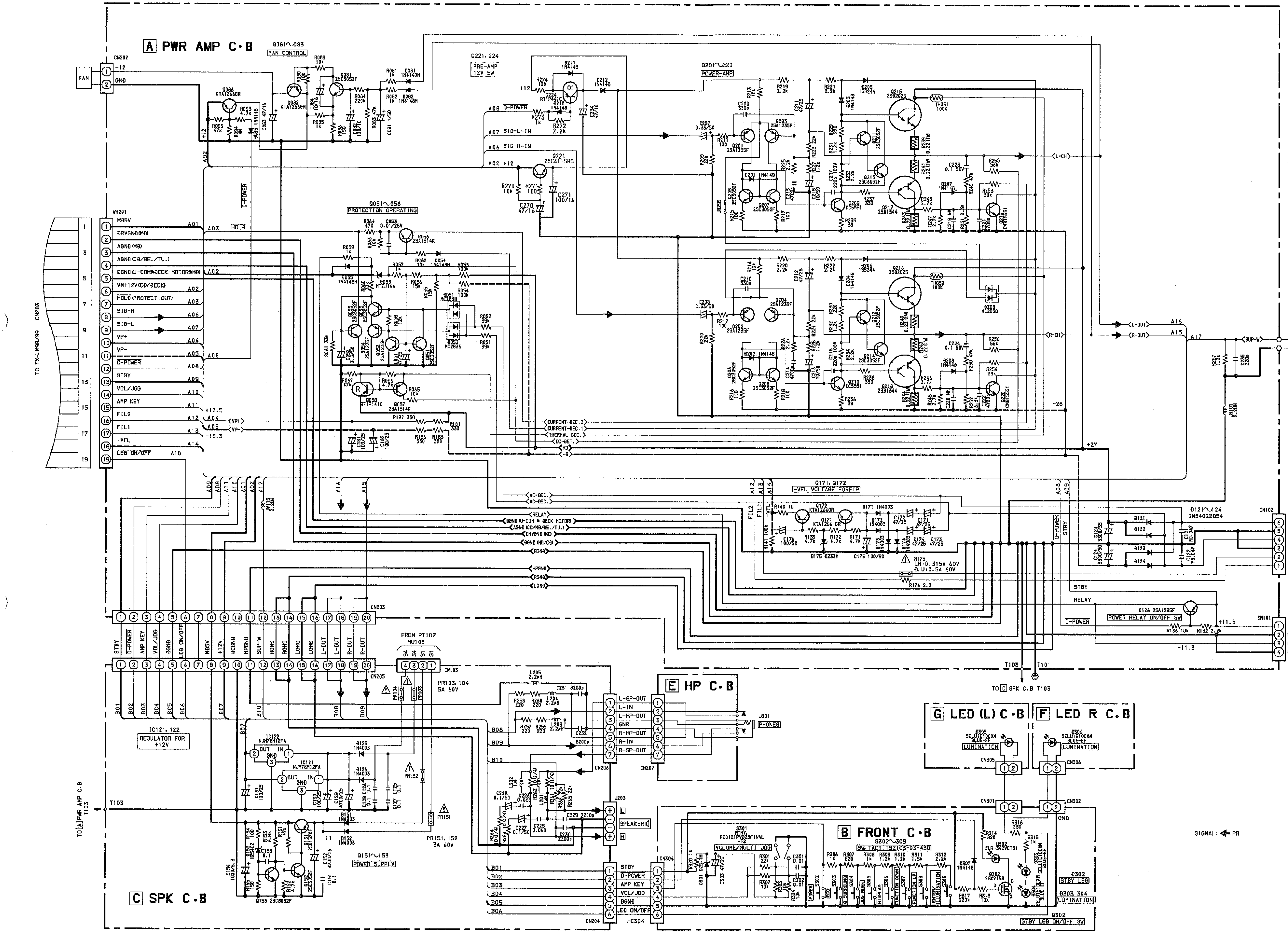
WIRING – 1 (SPK : MX-LM98 / 99)


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
C SPK C.B
FROM A PWR AMP C.B
T103
T103
FROM E HP C.B
CN207
1
3
5
7
CN206
C227
C225
R261
L201
R265
R263
R266
C226
C228
J203
J203
R
L
SPEAKERS
+
−
C229
C230
R262
L202
R264
D151
D152
PR104
PR152
PR103
PR151
CN103
C128
C127
C126
C125
C152
C151
D126
D125
CN205
20 19 17 15 13 11 9 7 5 3 1
C129
C130
C131
C154
IC122
1 3 2
IC121
1 3 2
R151
R153
R152
C153
Q153
Q152
Q151
B C E
R154
D153
L205
CN206
C231
C232
L203
L204
R257
R259
R260
R258
CN204
CN103
1 3 4
FROM PT102
HU103
20 19 17 15 13 11 9 7 5 3 1
CN203
FROM A PWR AMP C.B
CN204
FC304
1
3
5
6
TO B FRONT C.B
CN304

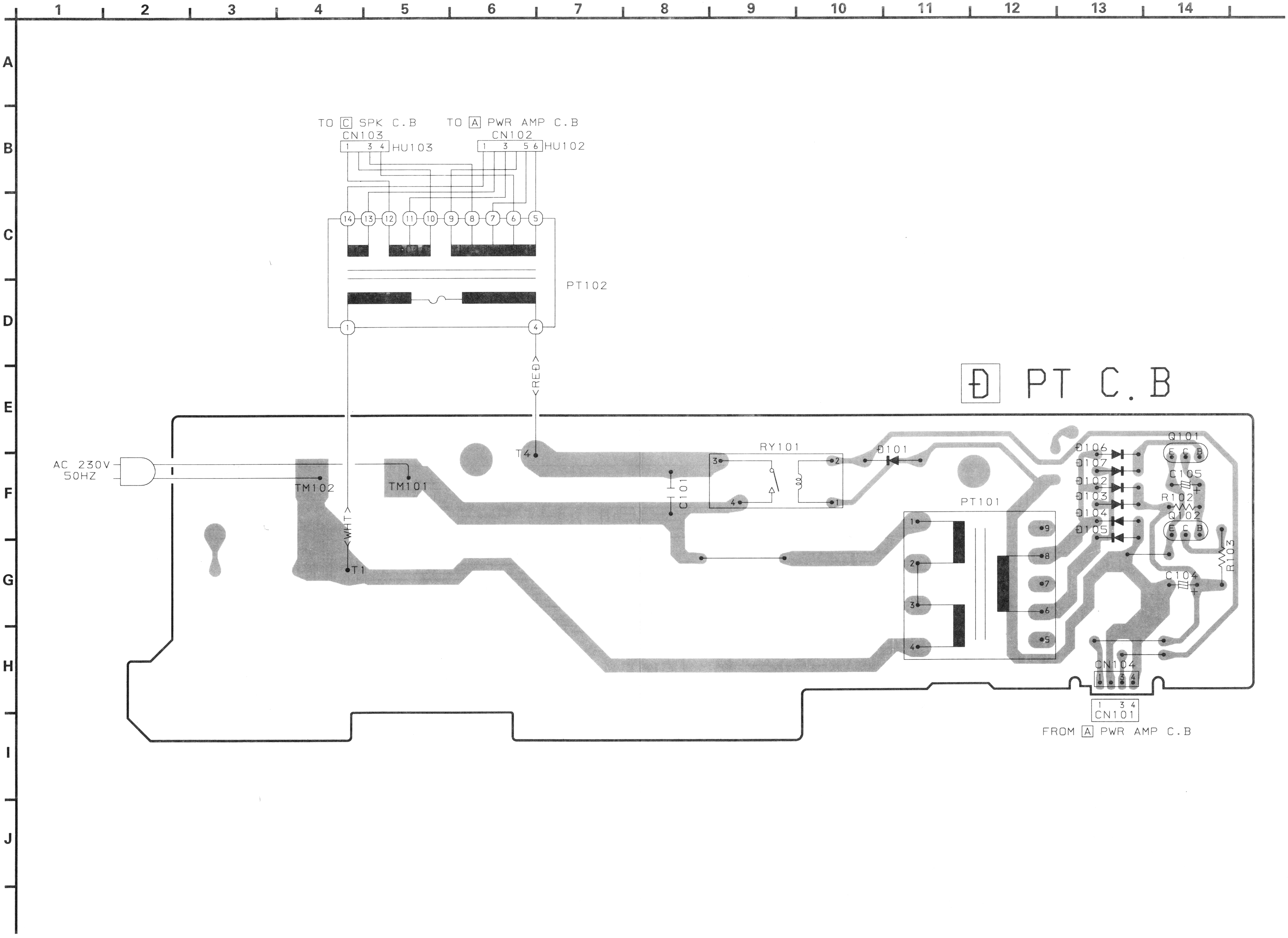
WIRING – 2 (MAIN / FRONT / HP / LED : MX-LM98 / 99)


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J
B FRONT C.B
TO C SPK C.B CN204
FC304
D302
STBY LED
S309
ENTER/ ILLUMINATION
D303, D304
LUMINATION
S301
VOLUME/MULTI JOG
CN302
CN306
TO F LED (R) C.B
S305
JOG MODE
S306
DISPLAY
S304
Q SURROUND
S308 UP
DOWN S307
FUNCTION
CN301
CN305
TO G LED (L) C.B
S302 S303
POWER ECO
G LED (L) C.B
FROM B FRONT C.B CN301
CN305
D305
LUMINATION
TO TX-LM98/99 CN203
CN201
TO C SPK C.B
T103
FROM PT102
HU102
A PWR AMP C.B
F LED (R) C.B
D306
LUMINATION
CN306
FROM B FRONT C.B CN302
FROM C SPK C.B CN205
CN203
WH201
CN102
CN101
CN104
TO D PT C.B
E HP C.B
J201
PHONES
CN207
TO C SPK C.B CN206
T101
CN202
J202
FAN
SUPER WOOFER

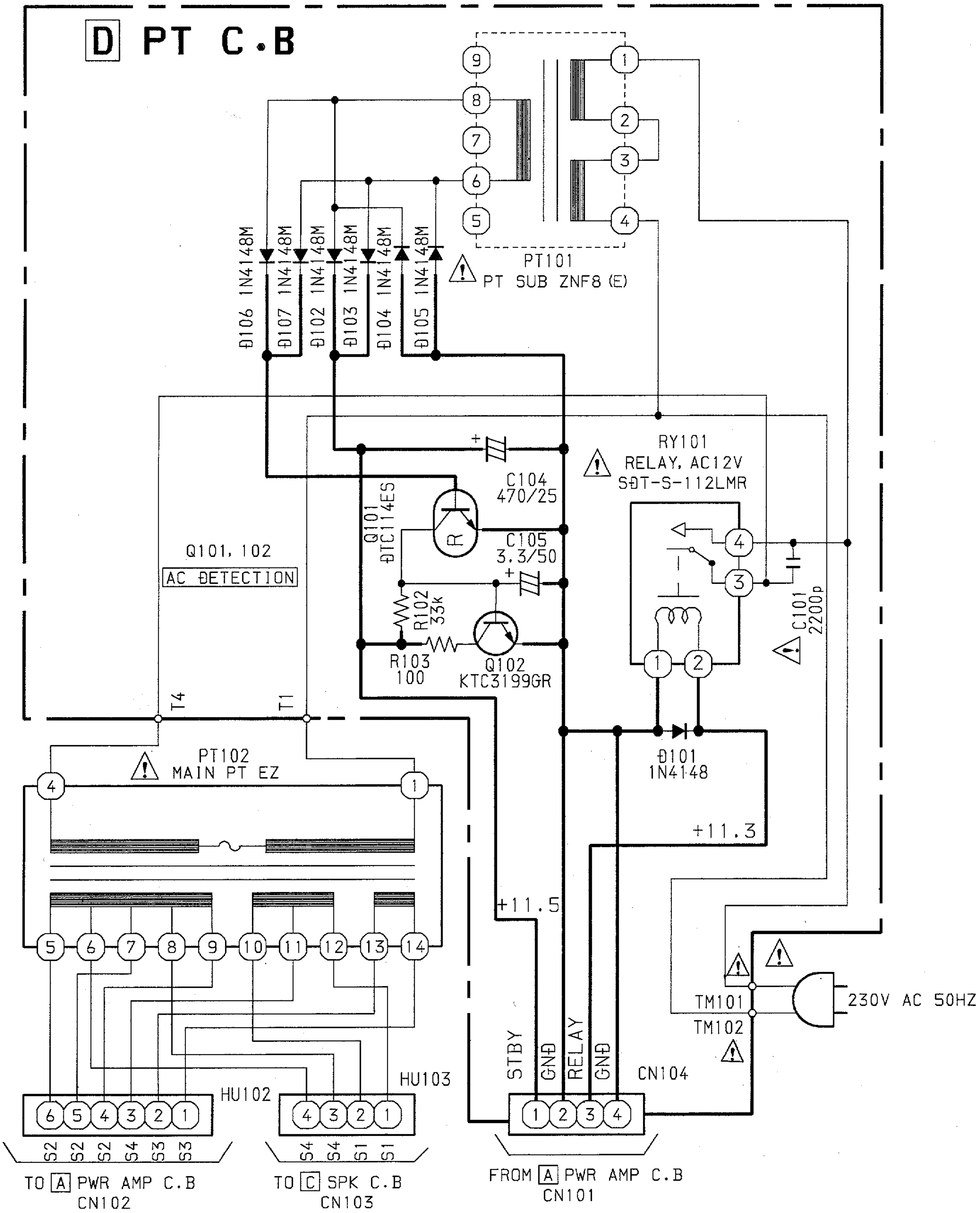
SCHEMATIC DIAGRAM – 1 (PWP AMP / FRONT / SPK / HP / LED : MX-LM98 / 99)


A PWR AMP C·B
Q081～083 FAN CONTROL
Q221, 224 PRE-AMP 12V SW
Q201～220 POWER-AMP
Q051～058 PROTECTION OPERATING
Q171, Q172 -VFL VOLTAGE FORFIP
Q126 2SA1235F POWER RELAY ON/OFF SW
FAN
CN202
WH201
TO TX-LM98/99 CN203
FROM PT102 HU102
CN102
CN101
TO B PT C.B CN104
J202 SUPER WOOFER
CN203
CN205
FROM PT102 HU103
CN103
PR103, 104 5A 60V
PR151, 152 3A 60V
IC121, 122 REGULATOR FOR +12V
Q151～153 POWER SUPPLY
C SPK C·B
E HP C·B
J201 PHONES
J203 SPEAKER
G LED (L) C·B
F LED R C·B
D305 SEL0IE10CXM BLUE-EF LUMINATION
D306 SEL0IE10CXM BLUE-EF LUMINATION
B FRONT C·B
S302～309 SW TACT TS2103-03-430
S301 RE0121PVB25FINAL VOLUME/MULTI JOG
D302 STBY LED
D303, 304 LUMINATION
Q302 STBY LED ON/OFF SW
TO A PWR AMP C.B T103
TO C SPK C.B T103
SIGNAL: PB
STBY
D-POWER
AMP KEY
VOL/JOG
BGND
LED ON/OFF
MOSV
+12V
DCGND
HPGND
SUP-W
RGND
LGND
L-OUT
R-OUT
L-SP-OUT
L-IN
L-HP-OUT
GND
R-HP-OUT
R-IN
R-SP-OUT
RELAY

WIRING – 3 (PT : MX-LM98 / 99)


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J
TO C SPK C.B
CN103
1 3 4 HU103
TO A PWR AMP C.B
CN102
1 3 5 6 HU102
14 13 12 11 10 9 8 7 6 5
PT102
1 4
<RED>
<WHT>
D PT C.B
AC 230V
50HZ
TM102
TM101
T4
T1
C101
RY101
3 4 2 1
D101
PT101
1 2 3 4 9 8 7 6 5
D106
D107
D102
D103
D104
D105
Q101
E C B
C105
R102
Q102
E C B
R103
C104
CN104
1 3 4
1 3 4
CN101
FROM A PWR AMP C.B

SCHEMATIC DIAGRAM – 2 (PT : MX-LM98 / 99)


D PT C.B
PT101
PT SUB ZNF8 (E)
D106 1N4148M
D107 1N4148M
D102 1N4148M
D103 1N4148M
D104 1N4148M
D105 1N4148M
RY101
RELAY, AC12V
SDT-S-112LMR
C104
470/25
Q101
DTC114ES
C105
3.3/50
Q101, 102
AC DETECTION
R102
33k
R103
100
Q102
KTC3199GR
C101
2200p
D101
1N4148
+11.3
+11.5
T4
T1
PT102
MAIN PT EZ
TM101
TM102
230V AC 50HZ
STBY
GND
RELAY
GND
CN104
HU102
HU103
S2 S2 S2 S4 S3 S3
S4 S4 S1 S1
TO A PWR AMP C.B
CN102
TO C SPK C.B
CN103
FROM A PWR AMP C.B
CN101

MECHANICAL PARTS LIST 1 / 1 (MX-LM98 / 99)

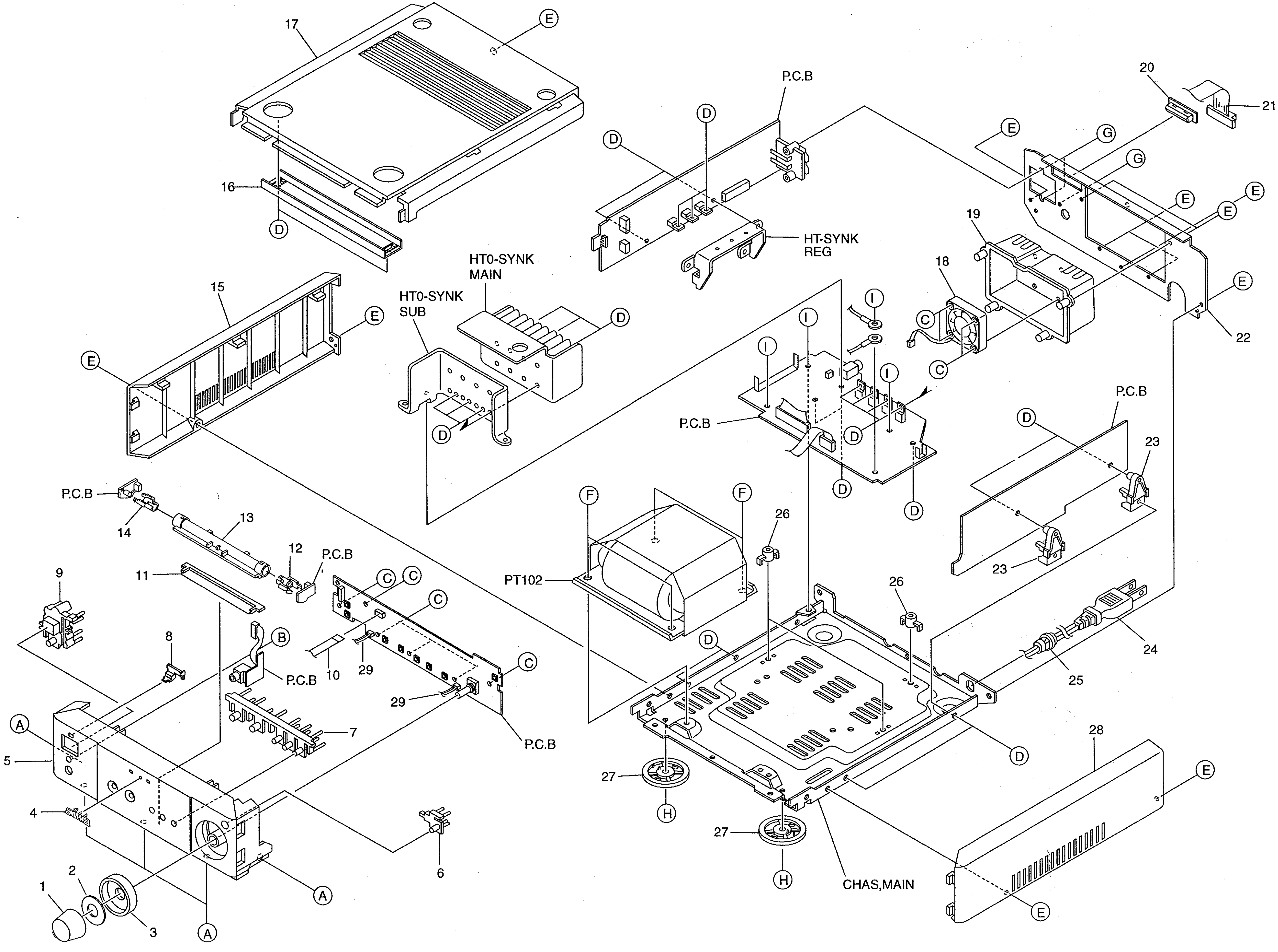
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-CE3-013-010		KNOB,RTRY JOG
2	8Z-CE3-207-010		PLATE,JOG
3	8Z-CE3-008-010		REFLECTOR,JOG
4	8Z-CC3-007-010		BADGE,AIWA 27.5 ABS SIL
5	8Z-CE3-022-010		CABI,FR AMP (EZ)<EZ>
5	8Z-CE3-023-010		CABI,FR AMP (K)<K>
6	8Z-CE3-012-010		KEY,ENTER
7	8Z-CE3-011-010		KEY,FUN
8	8Z-CE3-009-010		REFLECTOR,POWER
9	8Z-CE3-010-010		KEY,POWER
10	88-906-121-110		FF-CABLE,6P
11	8Z-CE3-007-010		REFLECTOR,FR
12	8Z-CE3-204-010		GUIDE,LED R
13	8Z-CE3-202-010		GUIDE,LED CNT
14	8Z-CE3-203-010		GUIDE,LED L
15	8Z-CE3-002-010		PANEL,SIDE L HIGH
16	8Z-CE3-208-010		PLATE,TOP AMP
17	8Z-CE3-005-010		PANEL,TOP
18	8Z-CL1-663-010		FAN,MF40D-12-200MM
19	8Z-CE3-014-010		COVER, FAN
20	87-A91-438-010		BUSHING,CABLE19P-1.5 SMK
21	8Z-CE3-610-010		CONN ASSY,19P 52305-1911
22	8Z-CE3-020-010		PANEL,REAR AMP (EZ)<EZ>
22	8Z-CE3-021-010		PANEL,REAR AMP (K)<K>
23	8Z-CE3-205-010		HLDR,PWB ECO
⚠ 24	87-A80-092-010		AC CORD ASSY,E BLK SUN FAI<EZ>
⚠ 24	87-A80-108-010		AC CORD ASSY,K BLK 3P<K>
25	87-085-185-010		BUSHING, AC CORD (E)
26	81-664-202-010		HOLDER, PCB
27	8Z-CE3-006-010		FOOT,DIA40 H4
28	8Z-CE3-003-010		PANEL,SIDE R HIGH
29	88-805-020-790		CONN ASSY,2P 70MM
A	87-591-095-410		TAPPING SCREW, QIT+3-8 (GLD)
B	88-AR1-217-010		S-SCREW,BFT2+3-8
C	87-078-060-010		BVIT3PB+3-10
D	87-067-703-010		TAPPING SCREW, BVT2+3-10
E	87-067-761-010		BVT2+3-10 BLK
F	87-067-586-010		TAPPING SCREW, BVT2+4-8
G	87-067-660-010		BVT2+3-8 W/O SLOT BLK
H	87-067-689-010		TAPPING SCREW, BVTT+3-8
I	87-067-581-010		TAPPING SCREW, BVT2+3-15

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

MECHANICAL EXPLODED VIEW 1 / 1 (MX-LM98 / 99)


17
E
16
D
P.C.B
D
D
HT-SYNK
REG
20
21
E
G
G
E
E
E
19
18
C
C
E
22
15
E
E
HT0-SYNK
MAIN
HT0-SYNK
SUB
D
D
I
I
I
I
P.C.B
D
D
D
P.C.B
D
23
23
P.C.B
14
13
12
P.C.B
9
11
C
C
C
F
F
26
PT102
26
8
B
P.C.B
10
29
C
29
7
P.C.B
D
24
25
D
A
5
4
28
E
27
H
27
H
CHAS,MAIN
6
1
2
3
A
A
E

MODEL NO.

TX-LM98/99

DISASSEMBLY INSTRUCTIONS

1. Top Panel and Side Panels L/R Removal

1) Remove 3 screws Ⓐ from the rear of unit. (See Fig-1)

2) Remove 2 screws Ⓑ from side panels L/R. (See Fig-1)

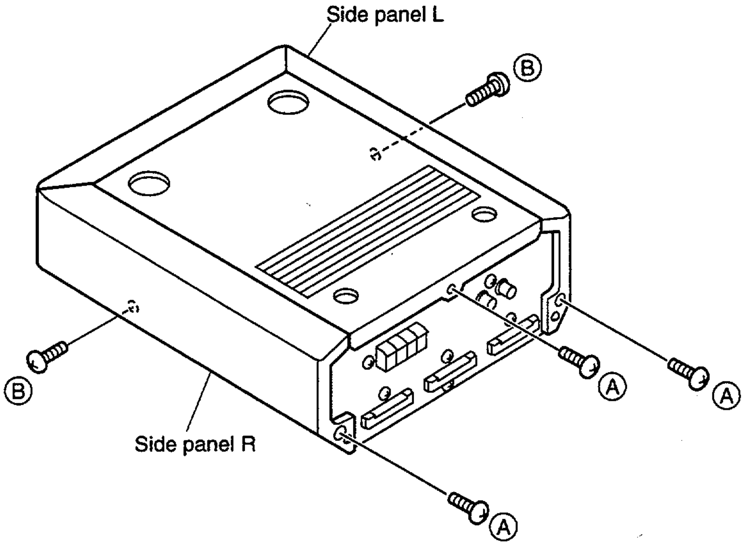

Side panel L
Ⓑ
Ⓑ
Side panel R
Ⓐ
Ⓐ
Ⓐ

Fig-1

3) Remove side panels L/R in the directions of arrows Ⓐ and Ⓑ. (See Fig-2)

4) Remove the tope panel in the direction of arrow Ⓒ. (See Fig-2)

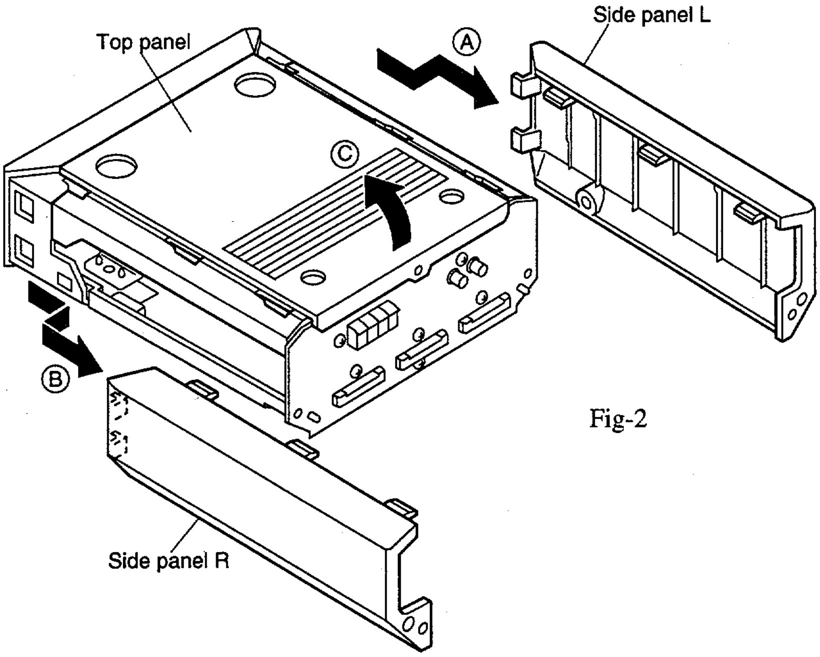

Top panel
Ⓐ
Side panel L
Ⓒ
Ⓑ
Side panel R

Fig-2

ELECTRICAL MAIN PARTS LIST (TX-LM98 / 99)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A21-022-040		C-IC,BA3880FS
	87-A21-103-040		C-IC,MM1454XFBE
	87-020-877-010		IC,LC4966
	87-A21-111-040		C-IC,M62495FP
	8Z-CF3-617-010		IC,LC876580W-5M70
	87-017-915-080		IC,BU4094BCF
	87-070-246-010		IC,GP1U271X
	87-002-849-080		IC,NJM78L06A
	87-070-127-110		IC,LC72131D
	87-A20-913-010		IC,LA1837NL
	87-A20-440-040		C-IC,BU1920FS<YEZ>
TRANSISTOR			
	87-A30-196-080		TR,2SC4115SRS
	87-A30-073-080		C-TR,RT1N 141C
	87-A30-071-080		C-TR,RT1N 144C
	87-A30-072-080		C-TR,RT1P 144C
	87-A30-047-080		TR,CSD655E
	87-026-297-080		TR,DTA144TK
	87-026-609-080		TR,KTA1266GR
	87-A30-076-080		C-TR,2SC3052F
	87-A30-087-080		C-FET,2SK2158
	89-327-143-080		TR,2SC2714 (0.1W)
	87-026-610-080		TR,KTC3198GR
	87-A30-086-070		C-TR,CSD1306E
	87-A30-074-080		C-TR,RT1P141C
	89-505-434-540		C-FET,2SK543-TB(4/5)
DIODE			
	87-A40-291-080		DIODE,1N4148 (CPT)
	87-A40-293-080		ZENER,DZ2.7M
	87-001-731-080		ZENER,HZS6C2L
	87-A40-269-080		C-DIODE,MC2836
	87-A40-270-080		C-DIODE,MC2838
	87-070-274-080		DIODE,1N4003 SEM
	87-020-465-080		DIODE,1SS133
	87-017-149-080		ZENER,HZS6A2L
MAIN C.B			
C201	87-010-381-080		CAP, ELECT 330-16V
C202	87-010-235-080		CAP,E 470-16 SME
C204	87-010-196-080		CHIP CAPACITOR,0.1-25
C205	87-010-404-080		CAP, ELECT 4.7-50V
C206	87-010-404-080		CAP, ELECT 4.7-50V
C207	87-010-404-080		CAP, ELECT 4.7-50V
C208	87-010-404-080		CAP, ELECT 4.7-50V
C209	87-010-188-080		CAP,CHIP 6800P
C210	87-010-188-080		CAP,CHIP 6800P
C211	87-012-140-080		CAP 470P
C212	87-012-140-080		CAP 470P
C213	87-010-178-080		CHIP CAP 1000P
C214	87-010-178-080		CHIP CAP 1000P
C215	87-010-197-080		CAP, CHIP 0.01 DM
C216	87-010-197-080		CAP, CHIP 0.01 DM
C217	87-010-195-080		C-CAP,S 0.068-25 F
C218	87-010-195-080		C-CAP,S 0.068-25 F
C219	87-010-545-080		CAP, ELECT 0.22-50V
C220	87-010-545-080		CAP, ELECT 0.22-50V
C221	87-010-408-080		CAP, ELECT 47-50V
C222	87-010-545-080		CAP, ELECT 0.22-50V
C223	87-010-545-080		CAP, ELECT 0.22-50V
C224	87-010-384-080		CAP, ELECT 100-25V
C225	87-010-196-080		CHIP CAPACITOR,0.1-25
C226	87-010-408-080		CAP, ELECT 47-50V
C227	87-010-197-080		CAP, CHIP 0.01 DM
C228	87-010-197-080		CAP, CHIP 0.01 DM
C229	87-010-402-080		CAP, ELECT 2.2-50V
C230	87-010-405-080		CAP, ELECT 10-50V
C231	87-010-405-080		CAP, ELECT 10-50V
C232	87-016-268-080		CAP,E 22-10 M BP SME
C233	87-010-402-080		CAP, ELECT 2.2-50V
C234	87-010-408-080		CAP, ELECT 47-50V
C235	87-010-237-080		CAP, ELECT 1000-16V
C236	87-010-322-080		CAP,CHIP 100P-50JCH
C237	87-010-197-080		CAP, CHIP 0.01 DM
C238	87-010-197-080		CAP, CHIP 0.01 DM
C239	87-010-322-080		CAP,CHIP 100P-50JCH
C240	87-010-322-080		CAP,CHIP 100P-50JCH
C241	87-010-322-080		CAP,CHIP 100P-50JCH
C242	87-010-322-080		CAP,CHIP 100P-50JCH
C243	87-010-322-080		CAP,CHIP 100P-50JCH
C244	87-010-322-080		CAP,CHIP 100P-50JCH
C245	87-010-197-080		CAP, CHIP 0.01 DM
C246	87-010-322-080		CAP,CHIP 100P-50JCH
C247	87-010-322-080		CAP,CHIP 100P-50JCH
C248	87-010-322-080		CAP,CHIP 100P-50JCH
C249	87-010-322-080		CAP,CHIP 100P-50JCH
C250	87-010-197-080		CAP, CHIP 0.01 DM
C251	87-010-322-080		CAP,CHIP 100P-50JCH
C252	87-010-322-080		CAP,CHIP 100P-50JCH
C253	87-018-209-080		CAP,TC U 0.1-50ZF
C254	87-018-209-080		CAP,TC U 0.1-50ZF
C301	87-010-401-080		CAP, ELECT 1-50V
C302	87-010-401-080		CAP, ELECT 1-50V
C303	87-010-196-080		CHIP CAPACITOR,0.1-25
C304	87-010-196-080		CHIP CAPACITOR,0.1-25
C306	87-010-180-080		C-CAP 1500P-50KB
C307	87-010-180-080		CAP CHIP 1500P-50KB
C310	87-010-182-080		C-CAP,S 2200P-50 B
C311	87-010-182-080		C-CAP,S 2200P-50 B
C312	87-010-213-080		C-CAP,S 0.015-50 B
C313	87-010-213-080		C-CAP,S 0.015-50 B
C314	87-010-400-080		CAP, ELECT 0.47-50V
C315	87-010-400-080		CAP, ELECT 0.47-50V
C316	87-010-400-080		CAP, ELECT 0.47-50V
C317	87-010-400-080		CAP, ELECT 0.47-50V
C320	87-010-374-080		CAP, ELECT 47-10V
C321	87-010-374-080		CAP, ELECT 47-10V
C322	87-010-154-080		CAP CHIP 10P
C340	87-012-157-080		CAP,CHIP S 330P-50JCH
C350	87-010-407-080		CAP, ELECT 33-50V
C351	87-010-407-080		CAP, ELECT 33-50V
C352	87-010-404-080		CAP, ELECT 4.7-50V
C353	87-010-404-080		CAP, ELECT 4.7-50V
C354	87-010-188-080		CAP,CHIP 6800P
C355	87-010-188-080		CAP,CHIP 6800P
C356	87-010-545-080		CAP, ELECT 0.22-50V
C357	87-010-545-080		CAP, ELECT 0.22-50V
C358	87-010-197-080		CAP, CHIP 0.01 DM
C359	87-012-157-080		CAP,CHIP S 330P-50JCH
C401	87-010-196-080		CHIP CAPACITOR,0.1-25
C402	87-010-380-080		CAP, ELECT 47-16V
C403	87-010-322-080		C-CAP,S 100P-50 CH
C404	87-010-379-080		CAP,E 22-16 M 11L SME
C501	87-010-408-080		CAP, ELECT 47-50V
C502	87-010-196-080		CHIP CAPACITOR,0.1-25
C503	87-010-196-080		CHIP CAPACITOR,0.1-25
C504	87-010-196-080		CHIP CAPACITOR,0.1-25
C505	87-010-156-080		C-CAP,S 15P-50 SL
C506	87-010-198-080		CAP, CHIP 0.022
C507	87-010-196-080		CHIP CAPACITOR,0.1-25
C508	87-012-145-080		CAP, CHIP S 270P CH
C513	87-010-375-080		CAP,E 330-10 SME
C514	87-010-400-040		CAP,E 0.47-50
C515	87-010-196-080		CHIP CAPACITOR,0.1-25

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C516	87-A10-189-040		CAP,E 220-10
C517	87-010-196-080		CHIP CAPACITOR,0.1-25
C518	87-010-196-080		CHIP CAPACITOR,0.1-25
C519	87-010-196-080		CHIP CAPACITOR,0.1-25
C521	87-010-402-080		CAP, ELECT 2.2-50V
C522	87-010-400-080		CAP, ELECT 0.47-50V
C550	87-010-196-080		CHIP CAPACITOR,0.1-25
C551	87-010-404-080		CAP, ELECT 4.7-50V
C553	87-010-404-080		CAP, ELECT 4.7-50V
CN201	87-A61-043-010		CONN,20P H BLK 52641-2011
CN202	87-A61-044-010		CONN,19P H BLUE 52641-1914
CN203	87-A61-042-010		CONN,19P H BLK 52641-1911
CN204	87-A61-025-010		CONN,4P TKC-M4P-B1
CN205	87-009-788-010		CONN,14P VBLK TKC-M<YK>
CN205	87-099-546-010		CONN,16P VBLK TKC-M<YEZ>
CN206	87-A60-050-010		CONN,20P V 9604S-20C
CN207	87-A60-041-010		CONN,30P V 9604S-30C
CN208	87-A60-059-010		CONN,08P V 9604S-08C
FC206	88-920-151-110		FF-CABLE,20P 1.25
FC207	88-930-151-110		FF-CABLE,30P 1.25
FC208	88-908-151-110		FF-CABLE,8P 1.25-150MM
L501	87-A50-052-010		COIL,CLOCK 5.76MHZ T1

FRONT C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C701	87-010-178-080		CHIP CAP 1000P
C702	87-010-405-080		CAP, ELECT 10-50V
CN701	87-A60-041-010		CONN,30P V 9604S-30C
CN702	87-A60-050-010		CONN,20P V 9604S-20C
CN706	88-805-021-590		CONN ASSY,2P
CN707	88-805-020-790		CONN ASSY,2P 70MM
CN710	87-A60-059-010		CONN,08P V 9604S-08C
FL701	8Z-CL4-621-010		FL,13-ST-36GNK
S701	87-A90-696-080		SW,TACT TS2103-03-430
S702	87-A90-696-080		SW,TACT TS2103-03-430
S703	87-A90-696-080		SW,TACT TS2103-03-430
S704	87-A90-696-080		SW,TACT TS2103-03-430
S705	87-A90-696-080		SW,TACT TS2103-03-430
S706	87-A90-696-080		SW,TACT TS2103-03-430
S707	87-A90-696-080		SW,TACT TS2103-03-430

LED R C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CN709	87-A60-619-010		CONN,2P V 2MM JMT
D711	87-A40-640-010		LED,SELU1E10CXM BLUE-EF

LED L C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CN708	87-A60-619-010		CONN,2P V 2MM JMT
D710	87-A40-640-010		LED,SELU1E10CXM BLUE-EF

CONN C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CN704	87-099-570-010		CONN,13P VTUC-P13P-B1<YK>
CN704	87-A60-189-010		CONN,16P VTUC-P16P-B1<YEZ>
CN705	87-009-799-010		CONN,14P H BLK TKC-M<YK>
CN705	87-009-800-010		CONN,16P H BLK TKC-M<YEZ>

JACK C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C703	87-012-157-080		C-CAP,S 330P-50 JCH GRM
C704	87-012-157-080		C-CAP,S 330P-50 JCH GRM
C706	87-010-322-080		CAP,CHIP 100P-50JCH
CN703	87-A61-024-010		CONN,4P H BLK TKC-M
J701	80-MT3-631-010		JACK,PIN 2P EARTH
R780	87-008-372-080		FILTER, EMI BL OIRNI<YEZ>
R781	87-008-372-080		FILTER, EMI BL OIRNI<YEZ>

TUNER C.B<YK>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C701	87-010-381-080		CAP,ELECT 330-16V
C702	87-010-404-080		CAP,ELECT 4.7-50V
C703	87-012-286-080		CAP,U 0.01-25
C704	87-012-286-080		CAP,U 0.01-25
C709	87-012-195-080		C-CAP,U 100P-50CH
C711	87-010-260-080		CAP,ELECT 47-25V
C712	87-010-831-080		C-CAP,U,0.1-16F
C713	87-012-286-080		CAP,U 0.01-25
C714	87-012-286-080		CAP,U 0.01-25
C715	87-012-195-080		C-CAP,U 100P-50CH
C717	87-012-286-080		CAP,U 0.01-25
C719	87-012-286-080		CAP,U 0.01-25
C720	87-012-195-080		C-CAP,U 100P-50CH
C721	87-012-176-080		CAP,15P
C722	87-012-176-080		CAP,15P
C723	87-012-274-080		CHIP CAP,U 1000P-50B
C725	87-018-131-080		CAP,TC U 1000P-50 KB
C727	87-010-196-080		CHIP CAPACITOR,0.1-25
C728	87-010-248-080		CAP,ELECT 220-10V
C729	87-012-274-080		CHIP CAP,U 1000P-50B
C731	87-012-286-080		CAP,U 0.01-25
C733	87-012-280-080		C-CAP,U 3300P-50 KB
C734	87-012-280-080		C-CAP,U 3300P-50 KB
C752	87-012-282-080		C-CAP,U 4700P-50 KB
C753	87-012-195-080		C-CAP,U 100P-50 J CH
C755	87-012-286-080		CAP,U 0.01-25
C756	87-012-286-080		CAP,U 0.01-25
C757	87-012-188-080		C-CAP,U 47P-50 CH
C758	87-012-167-080		C-CAP,U 5P-50 CH
C761	87-010-196-080		C-CAP,S 0.1-25 ZF
C762	87-012-286-080		CAP,U 0.01-25
C763	87-010-829-080		CAP,U 0.047-16
C765	87-012-286-080		CAP,U 0.01-25
C766	87-010-197-080		C-CAP,S 0.01-25 KB
C768	87-012-286-080		CAP,U 0.01-25
C769	87-010-260-080		CAP,ELECT 47-25V
C770	87-010-829-080		CAP,U 0.047-16
C771	87-010-383-080		CAP,ELECT 33-25V
C772	87-010-829-080		CAP,U 0.047-16
C773	87-010-196-080		CHIP CAPACITOR,0.1-25
C774	87-010-263-080		CAP,ELECT 100-10V
C775	87-010-404-080		CAP,ELECT 4.7-50V
C776	87-012-286-080		CAP,U 0.01-25
C777	87-010-493-080		CAP,E 0.47-50 M 5L SRE
C778	87-010-401-080		CAP,ELECT 1-50V
C779	87-010-401-080		CAP,ELECT 1-50V
C780	87-010-196-080		CHIP CAPACITOR,0.1-25
C781	87-010-405-080		CAP,ELECT 10-50V
C782	87-010-405-080		CAP,ELECT 10-50V
C783	87-012-286-080		CAP,U 0.01-25
C784	87-012-286-080		CAP,U 0.01-25
C785	87-010-401-080		CAP,ELECT 1-50V
C786	87-010-401-080		CAP,ELECT 1-50V
C787	87-012-275-080		C-CAP,U 1200P-50 B
C788	87-012-275-080		C-CAP,U 1200P-50 B
C789	87-012-275-080		C-CAP,U 1200P-50 B
C790	87-012-275-080		C-CAP,U 1200P-50 B
C791	87-010-405-080		CAP,ELECT 10-50V
C793	87-012-273-080		C-CAP,U 820P-50 B
C794	87-010-406-080		CAP,ELECT 22-50
C795	87-010-596-080		CAP,S 0.047-16
C796	87-010-403-080		CAP,ELECT 3.3-50V
C797	87-012-276-080		C-CAP,U 1500P-50 KB
C798	87-012-276-080		C-CAP,U 1500P-50 KB
C799	87-010-829-080		CAP,U 0.047-16
C812	87-012-286-080		CAP,U 0.01-25
C814	87-012-286-080		CAP,U 0.01-25
C820	87-010-260-080		CAP,ELECT 47-25V
C821	87-012-286-080		CAP,U 0.01-25
C822	87-012-286-080		CAP,U 0.01-25
C823	87-012-286-080		CAP,U 0.01-25

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C828	87-010-196-080		CHIP CAPACITOR,0.1-25
C829	87-010-196-080		CHIP CAPACITOR,0.1-25
C859	87-012-286-080		C-CAP,U 0.01-25 KB
C861	87-012-199-080		C-CAP,U 220P-50 J CH
C862	87-012-199-080		C-CAP,U 220P-50 J CH
C863	87-012-270-080		C-CAP,U 470P-50 KB
C864	87-010-405-080		CAP,E 10-50 M 11L SME
C865	87-010-196-080		C-CAP,S 0.1-25 ZF
C866	87-010-405-080		CAP,E 10-50 M 11L SME
C867	87-012-286-080		C-CAP,U 0.01-25 KB
C868	87-012-184-080		C-CAP,U 33P-50 J CH
C869	87-012-180-080		C-CAP,U 22P-50 J CH
C940	87-012-286-080		C-CAP,U 0.01-25 KB
C942	87-012-172-080		C-CAP,U 10P-50 D CH
C947	87-012-286-080		C-CAP,U 0.01-25 KB
C949	87-A10-039-080		C-CAP,U 470P-50 J CH
C952	87-012-286-080		C-CAP,U 0.01-25 KB
C958	87-010-197-080		C-CAP,S 0.01-25 KB
C959	87-010-831-080		C-CAP,U 0.1-16 ZF
C960	87-010-196-080		CHIP CAPACITOR,0.1-25
C962	87-010-401-080		CAP,E 1-50 M 11L SME
CF801	87-008-423-010		FLTR,CF SFE10.7MS3G-A
CF802	82-785-747-010		CF,MS2 GHY R
CN701	87-A60-700-010		CONN,13P H GRY TUC-P13X-C1
FFE801	A8-6ZA-191-130		6ZA-1 FEENM
J801	87-033-241-010		TERMINAL,ANT 2P AJ-2039
L771	87-A50-266-010		COIL,FM DET-2N(TOK)
L772	87-A90-733-010		FLTR,PCFAZH-450(TOK)
L781	87-005-847-010		COIL,2.2UH K CECS
L791	87-A50-027-010		COIL,1 POLE MPX(TOK)
L792	87-A50-027-010		COIL,1 POLE MPX(TOK)
L832	87-005-847-080		COIL,2.2UH K CECS
L851	87-005-847-080		COIL,2.2UH K CECS
L941	87-A50-020-010		COIL,ANT LW(COI)252KHZ
L942	87-A50-019-010		COIL,OSC LW(COI) 856KHZ
L981	87-NF4-651-110		COIL,AM PACK 2N(TOM)
TC942	87-011-164-010		TRIMMER,CER 30P 4.5X3.9 VCT31
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309
X851	87-A70-091-010		VIB,XTAL 4.332MHZ CSA-309

TUNER C.B<YEZ>

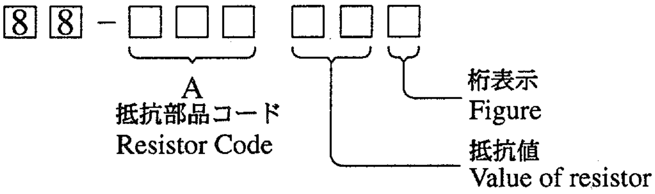
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C701	87-010-381-080		CAP,ELECT 330-16V
C702	87-010-404-080		CAP,ELECT 4.7-50V
C703	87-012-286-080		CAP,U 0.01-25
C704	87-012-286-080		CAP,U 0.01-25
C709	87-012-195-080		C-CAP,U 100P-50CH
C711	87-010-260-080		CAP,ELECT 47-25V
C712	87-010-831-080		C-CAP,U,0.1-16F
C713	87-012-286-080		CAP,U 0.01-25
C714	87-012-286-080		CAP,U 0.01-25
C715	87-012-195-080		C-CAP,U 100P-50CH
C717	87-012-286-080		CAP,U 0.01-25
C719	87-012-286-080		CAP,U 0.01-25
C720	87-012-195-080		C-CAP,U 100P-50CH
C721	87-012-176-080		CAP,15P
C722	87-012-176-080		CAP,15P
C723	87-012-274-080		CHIP CAP,U 1000P-50B
C725	87-018-131-080		CAP,TC U 1000P-50 KB
C727	87-010-196-080		CHIP CAPACITOR,0.1-25
C728	87-010-248-080		CAP,ELECT 220-10V
C729	87-012-274-080		CHIP CAP,U 1000P-50B
C731	87-012-286-080		CAP,U 0.01-25
C733	87-012-280-080		C-CAP,U 3300P-50 KB
C734	87-012-280-080		C-CAP,U 3300P-50 KB
C752	87-012-282-080		C-CAP,U 4700P-50 KB
C753	87-012-195-080		C-CAP,U 100P-50 J CH
C755	87-012-286-080		CAP,U 0.01-25
C756	87-012-286-080		CAP,U 0.01-25
C757	87-012-188-080		C-CAP,U 47P-50 CH

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C758	87-012-167-080		C-CAP,U 5P-50 CH
C761	87-010-196-080		C-CAP,S 0.1-25 ZF
C762	87-012-286-080		CAP,U 0.01-25
C763	87-010-829-080		CAP,U 0.047-16
C765	87-012-286-080		CAP,U 0.01-25
C766	87-010-197-080		C-CAP,S 0.01-25 KB
C768	87-012-286-080		CAP,U 0.01-25
C769	87-010-260-080		CAP,ELECT 47-25V
C770	87-010-829-080		CAP,U 0.047-16
C771	87-010-383-080		CAP,ELECT 33-25V
C772	87-010-829-080		CAP,U 0.047-16
C773	87-010-196-080		CHIP CAPACITOR,0.1-25
C774	87-010-263-080		CAP,ELECT 100-10V
C775	87-010-404-080		CAP,ELECT 4.7-50V
C776	87-012-286-080		CAP,U 0.01-25
C777	87-010-493-080		CAP,E 0.47-50 M 5L SRE
C778	87-010-401-080		CAP,ELECT 1-50V
C779	87-010-401-080		CAP,ELECT 1-50V
C780	87-010-196-080		CHIP CAPACITOR,0.1-25
C781	87-010-405-080		CAP,ELECT 10-50V
C782	87-010-405-080		CAP,ELECT 10-50V
C783	87-012-286-080		CAP,U 0.01-25
C784	87-012-286-080		CAP,U 0.01-25
C785	87-010-401-080		CAP,ELECT 1-50V
C786	87-010-401-080		CAP,ELECT 1-50V
C787	87-012-275-080		C-CAP,U 1200P-50 B
C788	87-012-275-080		C-CAP,U 1200P-50 B
C789	87-012-275-080		C-CAP,U 1200P-50 B
C790	87-012-275-080		C-CAP,U 1200P-50 B
C791	87-010-405-080		CAP,ELECT 10-50V
C793	87-012-273-080		C-CAP,U 820P-50 B
C794	87-010-406-080		CAP,ELECT 22-50
C795	87-010-596-080		CAP,S 0.047-16
C796	87-010-403-080		CAP,ELECT 3.3-50V
C797	87-012-276-080		CAP,CHIP SS 1500 PBK
C798	87-012-276-080		CAP,CHIP SS 1500 PBK
C799	87-010-829-080		CAP,U 0.047-16
C812	87-012-286-080		CAP,U 0.01-25
C814	87-012-286-080		CAP,U 0.01-25
C820	87-010-260-080		CAP,ELECT 47-25V
C821	87-012-286-080		CAP,U 0.01-25
C822	87-012-286-080		CAP,U 0.01-25
C823	87-012-286-080		CAP,U 0.01-25
C828	87-010-196-080		CHIP CAPACITOR,0.1-25
C829	87-010-196-080		CHIP CAPACITOR,0.1-25
C859	87-012-286-080		C-CAP,U 0.01-25 KB
C861	87-012-199-080		C-CAP,U 220P-50 J CH
C862	87-012-199-080		C-CAP,U 220P-50 J CH
C863	87-012-270-080		C-CAP,U 470P-50 KB
C864	87-010-405-080		CAP,E 10-50 M 11L SME
C865	87-010-196-080		C-CAP,S 0.1-25 ZF
C866	87-010-405-080		CAP,E 10-50 M 11L SME
C867	87-012-286-080		C-CAP,U 0.01-25 KB
C868	87-012-184-080		C-CAP,U 33P-50 J CH
C869	87-012-180-080		C-CAP,U 22P-50 J CH
C940	87-012-286-080		C-CAP,U 0.01-25 KB
C942	87-012-172-080		C-CAP,U 10P-50 D CH
C947	87-012-286-080		C-CAP,U 0.01-25 KB
C949	87-A10-039-080		C-CAP,U 470P-50 J CH
C952	87-012-286-080		C-CAP,U 0.01-25 KB
C958	87-010-197-080		C-CAP,S 0.01-25 KB
C959	87-010-831-080		C-CAP,U 0.1-16 ZF
C960	87-010-196-080		CHIP CAPACITOR,0.1-25
C962	87-010-401-080		CAP,E 1-50 M 11L SME
CF801	87-008-423-010		FLTR,CF SFE10.7MS3G-A
CF802	82-785-747-010		CF,MS2 GHY R
CN701	87-A60-650-010		CONN,16P H GRY TUC-P16X-C1
FFE801	A8-6ZA-191-130		6ZA-1 FEENM
J801	87-033-241-010		TERMINAL,ANT 2P AJ-2039
L771	87-A50-266-010		COIL,FM DET-2N(TOK)

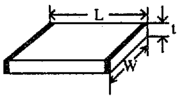
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
L772	87-A90-733-010		FLTR,PCFAZH-450(TOK)
L781	87-005-847-010		COIL,2.2UH K CECS
L791	87-A50-027-010		COIL,1 POLE MPX(TOK)
L792	87-A50-027-010		COIL,1 POLE MPX(TOK)
L832	87-005-847-080		COIL,2.2UH K CECS
L851	87-005-847-080		COIL,2.2UH K CECS
L941	87-A50-020-010		COIL,ANT LW(COI)252KHZ
L942	87-A50-019-010		COIL,OSC LW(COI) 856KHZ
L981	87-NF4-651-110		COIL,AM PACK 2N(TOM)
TC942	87-011-164-010		TRIMMER,CER 30P 4.5X3.9 VCT31
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309
X851	87-A70-091-010		VIB,XTAL 4.332MHZ CSA-309

Oチップ抵抗部品コード／CHIP RESISTOR PART CODE

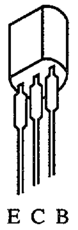
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A Resistor Code : A
				外形／Form	L	W	t	
1/16W	1005	±5%	CJ		1.0	0.5	0.35	104
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION (TX-LM98 / 99)



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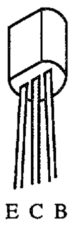

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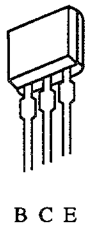

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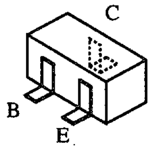
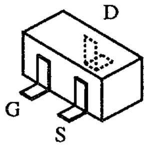
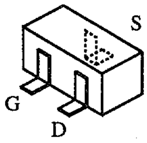


2SC2714
2SC3052
CSD1306
DTA144TK
RT1N141C
RT1N144C
RT1P141C
RT1P144C

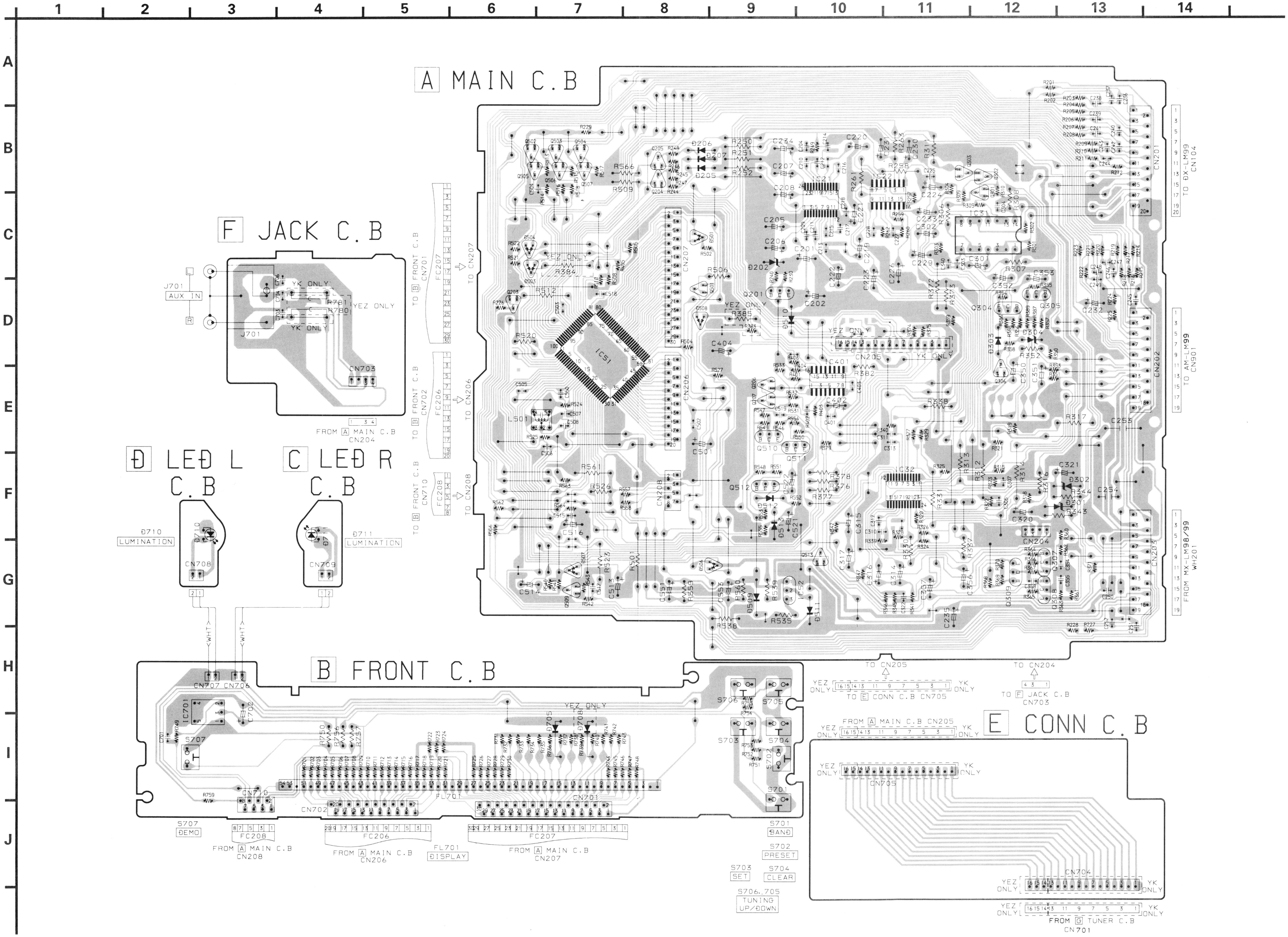


2SK2158



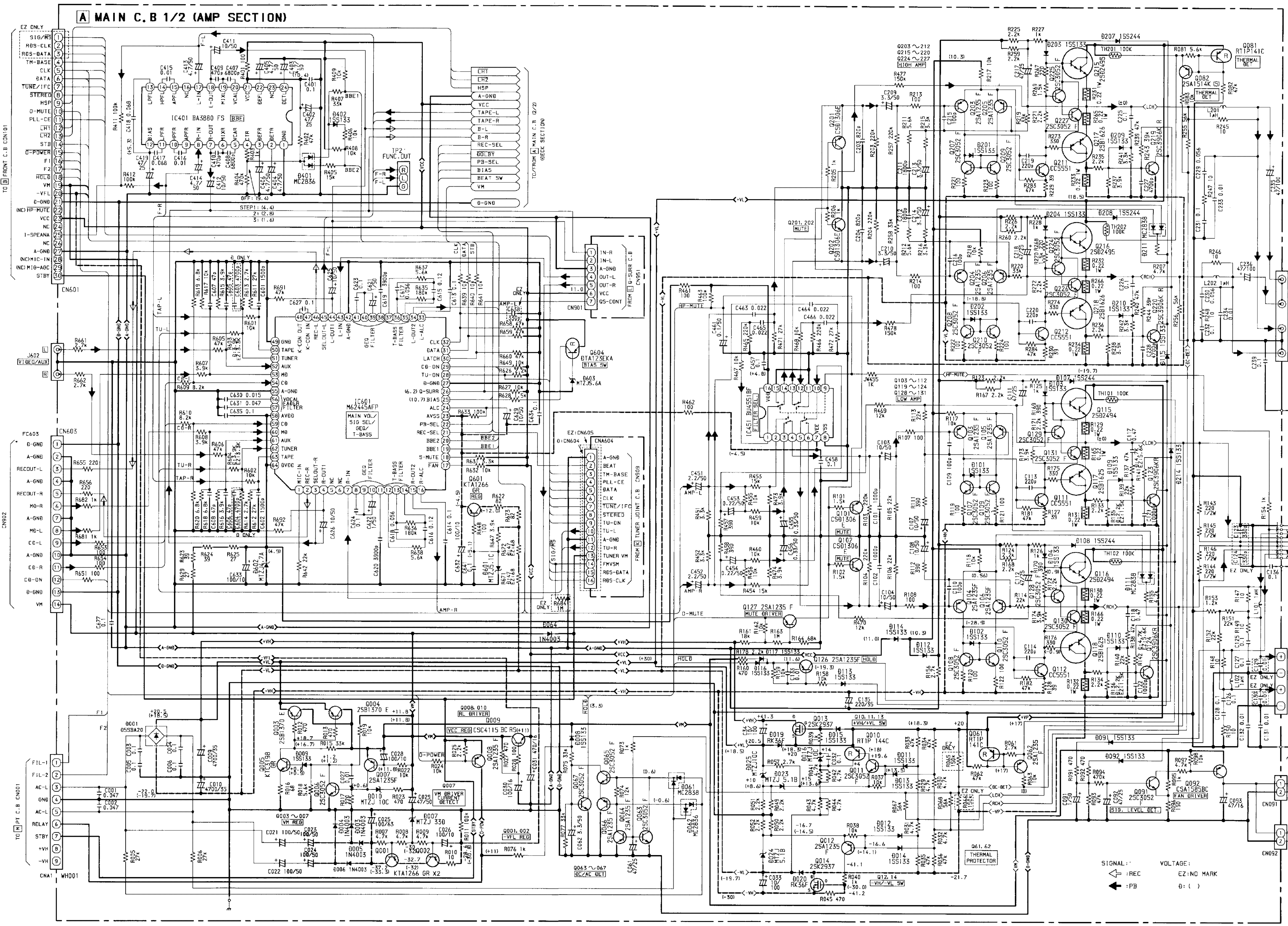
2SK543

WIRING – 1 (MAIN / FRONT / LED / CONN / JACK : TX-LM98 / 99)



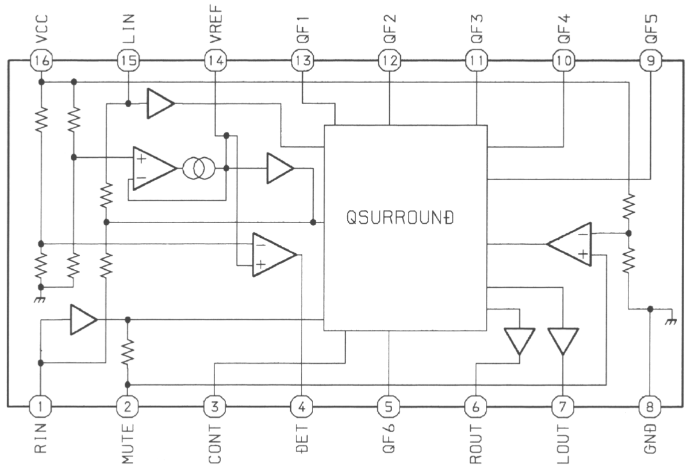
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J
A MAIN C.B
F JACK C.B
J701 AUX IN
YK ONLY
YEZ ONLY
CN703
FROM A MAIN C.B CN204
Đ LEĐ L C.B
C LEĐ R C.B
Đ710 LUMINATION
Đ711 LUMINATION
CN708
CN709
<WHT>
B FRONT C.B
CN707 CN706
IC701
S707
CN710
CN702
FL701
CN701
S701 S702 S703 S704 S705 S706
TO B FRONT C.B CN701 FC207 TO CN207
TO B FRONT C.B CN702 FC206 TO CN206
TO B FRONT C.B CN710 FC208 TO CN208
IC51
CN201 TO DX-LM99 CN104
CN202 TO AM-LM99 CN901
CN203 FROM MX-LM98/99 WH201
CN204
CN205
CN206
CN207
CN208
TO CN205
YEZ ONLY
YK ONLY
TO E CONN C.B CN705
TO CN204
TO F JACK C.B CN703
FROM A MAIN C.B CN205
E CONN C.B
CN705
CN704
FROM G TUNER C.B CN701
S707 ĐEMO
FC208 FROM A MAIN C.B CN208
FC206 FROM A MAIN C.B CN206
FL701 ĐISPLAY
FC207 FROM A MAIN C.B CN207
S701 BAND
S702 PRESET
S703 SET
S704 CLEAR
S706, 705 TUNING UP/ĐOWN

SCHEMATIC DIAGRAM – 1 (MAIN 1 / 2 : AMP SECTION)

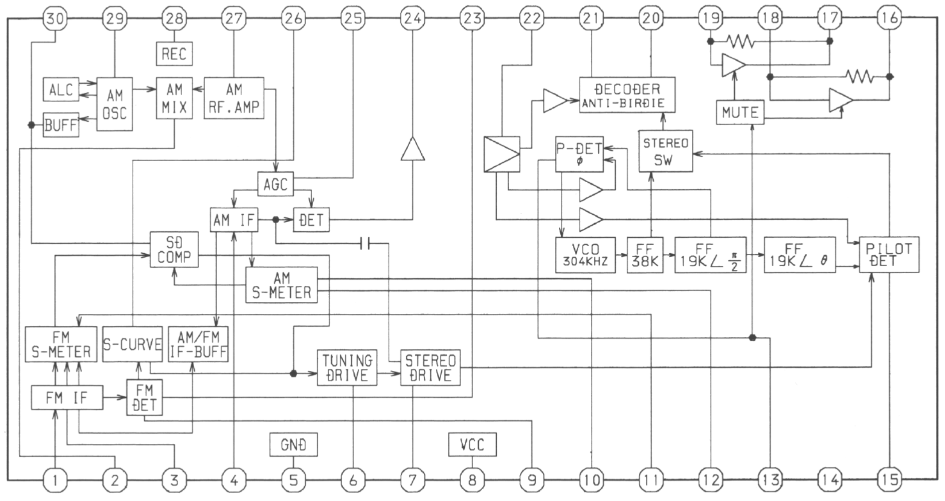

A MAIN C.B 1/2 (AMP SECTION)
EZ ONLY
CN601
TO B FRONT C.B CON101
IC401 BA3880 FS BBE
IC601 M62445AFP
MAIN VOL/ SIG SEL/ GEQ/ T-BASS
TP2 FUNC.OUT
TO/FROM A MAIN C.B (2/2) (DECK SECTION)
CN901
FROM E G-SURR C.B CN951
J602 VIDEO/AUX
FC603
CN603
TO J JOINT C.B CN902
Q604 DTA123EKA BIAS SW
Q601 KTA1266 GR
EZ:CN605
G:CN604
CNA604
FROM K TUNER JOINT C.B CN909
IC451 BU4551BF FILTER SEL
Q201,202 MUTE
Q203~212 Q215~220 Q224~227 HIGH AMP
Q103~112 Q119~124 Q128~131 LOW AMP
Q127 2SA1235 F MUTE DRIVER
Q126 2SA1235F HOLD
Q081 RT1P141C THERMAL DET
Q082 2SA1514K (S) THERMAL DET
J204 (1/2) SURROUND SPEAKERS
J204 (2/2) SPEAKERS HIGH FREQ
J201 PHONES
J203 SPEAKERS LOW FREQ SPEAKERS IMP: 4Ω
TO M PT C.B CN001
CNA1 WH001
D001 GSBA20
Q003~007 VM REG
Q004 2SB1370 E
Q008,010 RL DRIVER
Q009 VCC REG 2SC4115 BC RS
Q007 VM DRIVER CURRENT DETECT
Q001,002 -VFL REG
Q001 Q002 KTA1266 GR X2
Q063~067 DC/AC DET
Q010,11,13 +VH/+VL SW
Q12,14 -VH/-VL SW
Q61,62 THERMAL PROTECTOR
Q091 2SC3052 SIG. LEVEL DET
Q092 CSA1585BC FAN DRIVER
CN091 FAN 1
CN092 FAN 2
SIGNAL: :REC :PB
VOLTAGE: EZ:NO MARK G:( )

IC BLOCK DIAGRAM – 1 (TX-LM98 / 99)

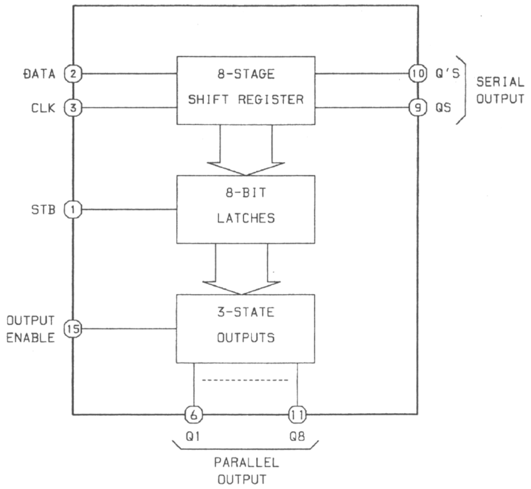
IC, MM1454XFBE


VCC
LIN
VREF
QF1
QF2
QF3
QF4
QF5
16
15
14
13
12
11
10
9
QSURROUND
1
2
3
4
5
6
7
8
RIN
MUTE
CONT
DET
QF6
ROUT
LOUT
GND

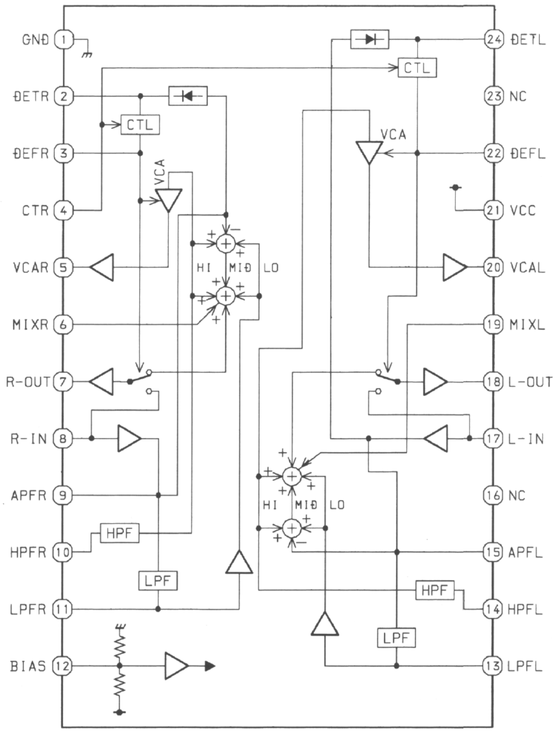
IC, LA1837NL


30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
REC
ALC
AM OSC
AM MIX
AM RF.AMP
BUFF
AGC
AM IF
DET
SD COMP
AM S-METER
FM S-METER
S-CURVE
AM/FM IF-BUFF
FM IF
FM DET
TUNING DRIVE
STEREO DRIVE
GND
VCC
DECODER ANTI-BIRDIE
P-DET
STEREO SW
MUTE
VCO 304KHZ
FF 38K
FF 19K∠π/2
FF 19K∠0
PILOT DET
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

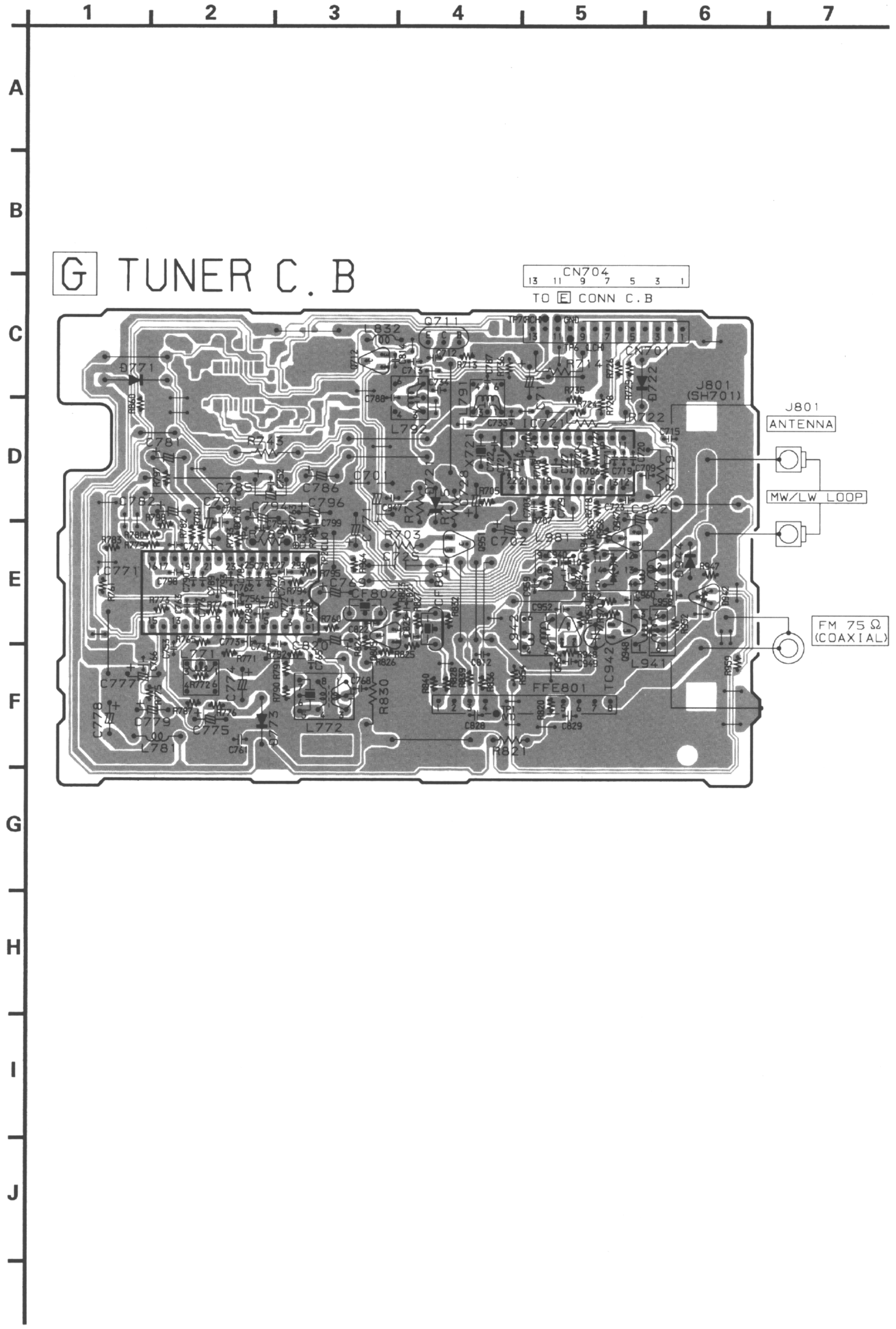
IC, BU4094BCF


DATA 2
CLK 3
STB 1
OUTPUT ENABLE 15
8-STAGE SHIFT REGISTER
8-BIT LATCHES
3-STATE OUTPUTS
10 Q'S
9 QS
SERIAL OUTPUT
6
11
Q1
Q8
PARALLEL OUTPUT

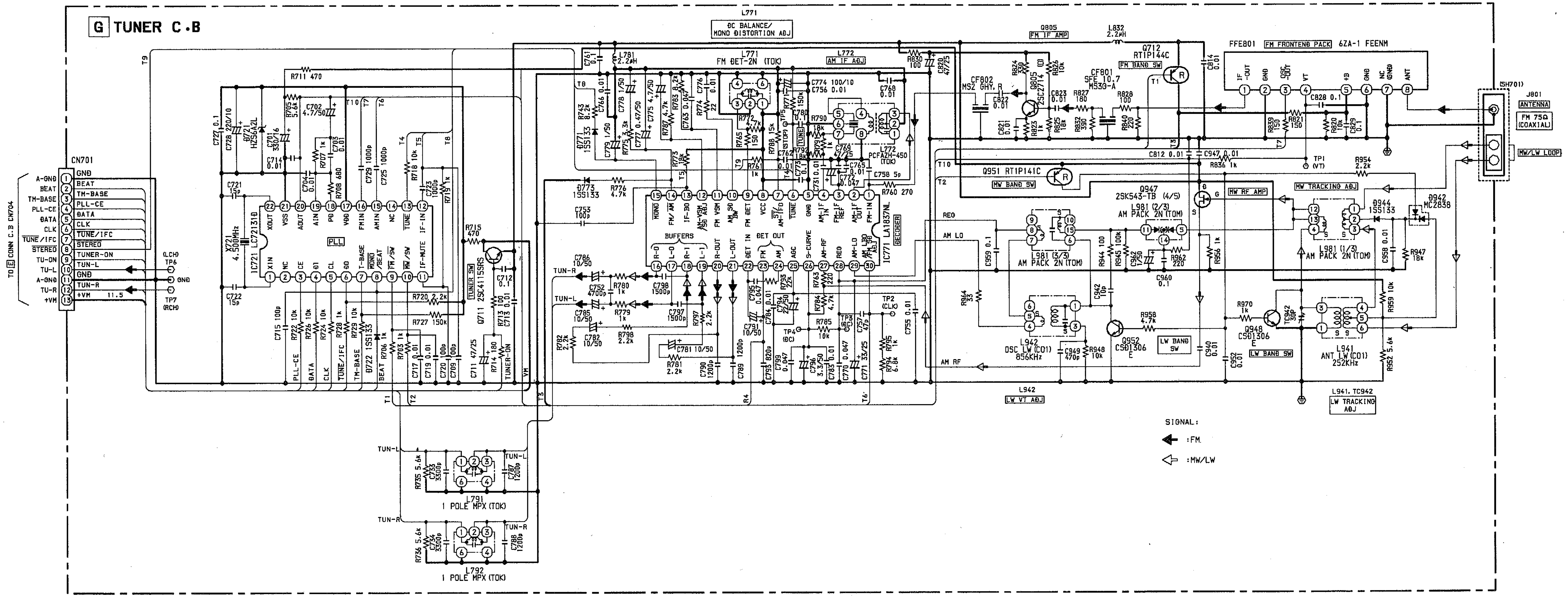
IC, BA3880FS


GND 1
DETR 2
DEFR 3
CTR 4
VCAR 5
MIXR 6
R-OUT 7
R-IN 8
APFR 9
HPFR 10
LPFR 11
BIAS 12
24 DETL
23 NC
22 DEFL
21 VCC
20 VCAL
19 MIXL
18 L-OUT
17 L-IN
16 NC
15 APFL
14 HPFL
13 LPFL
CTL
VCA
HI
MID
LO
HPF
LPF

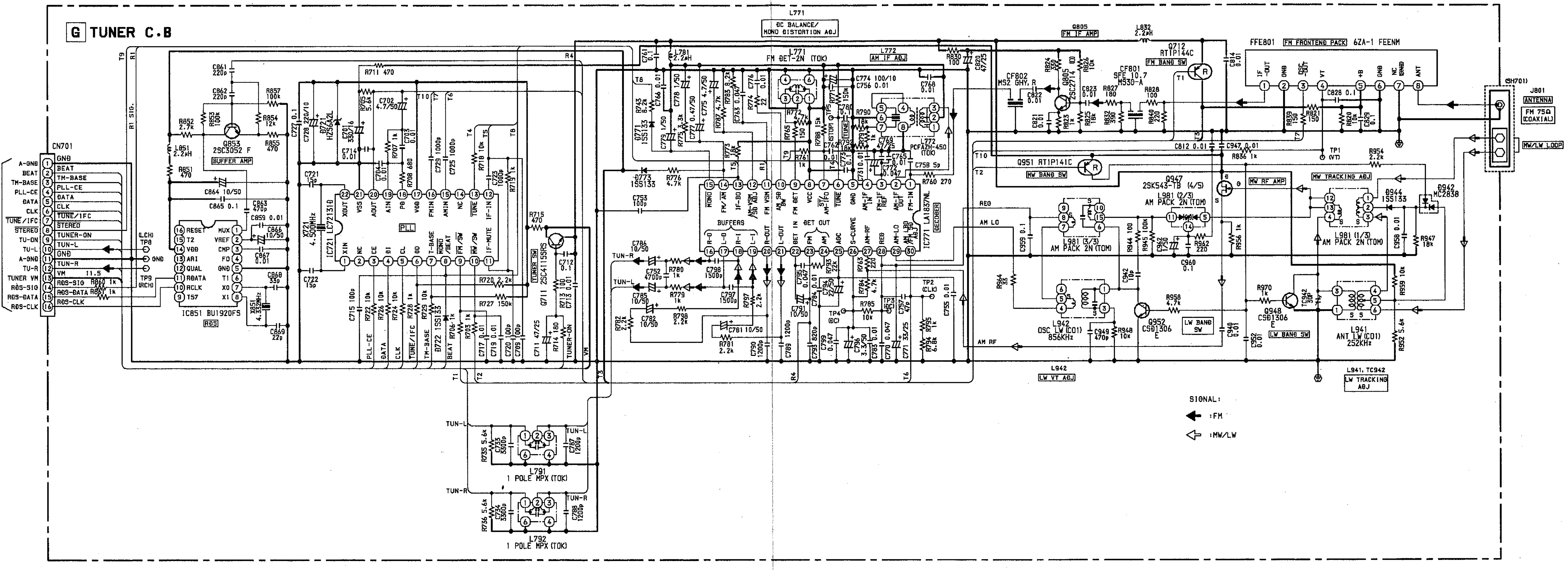
WIRING – 2 (TUNER : TX-LM98) <K>


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
G TUNER C. B
CN704
13 11 9 7 5 3 1
TO E CONN C. B
J801 ANTENNA
MW/LW LOOP
FM 75 Ω (COAXIAL)
J801 (SH701)
Q711
CN701
D771
L772
FFE801
R821

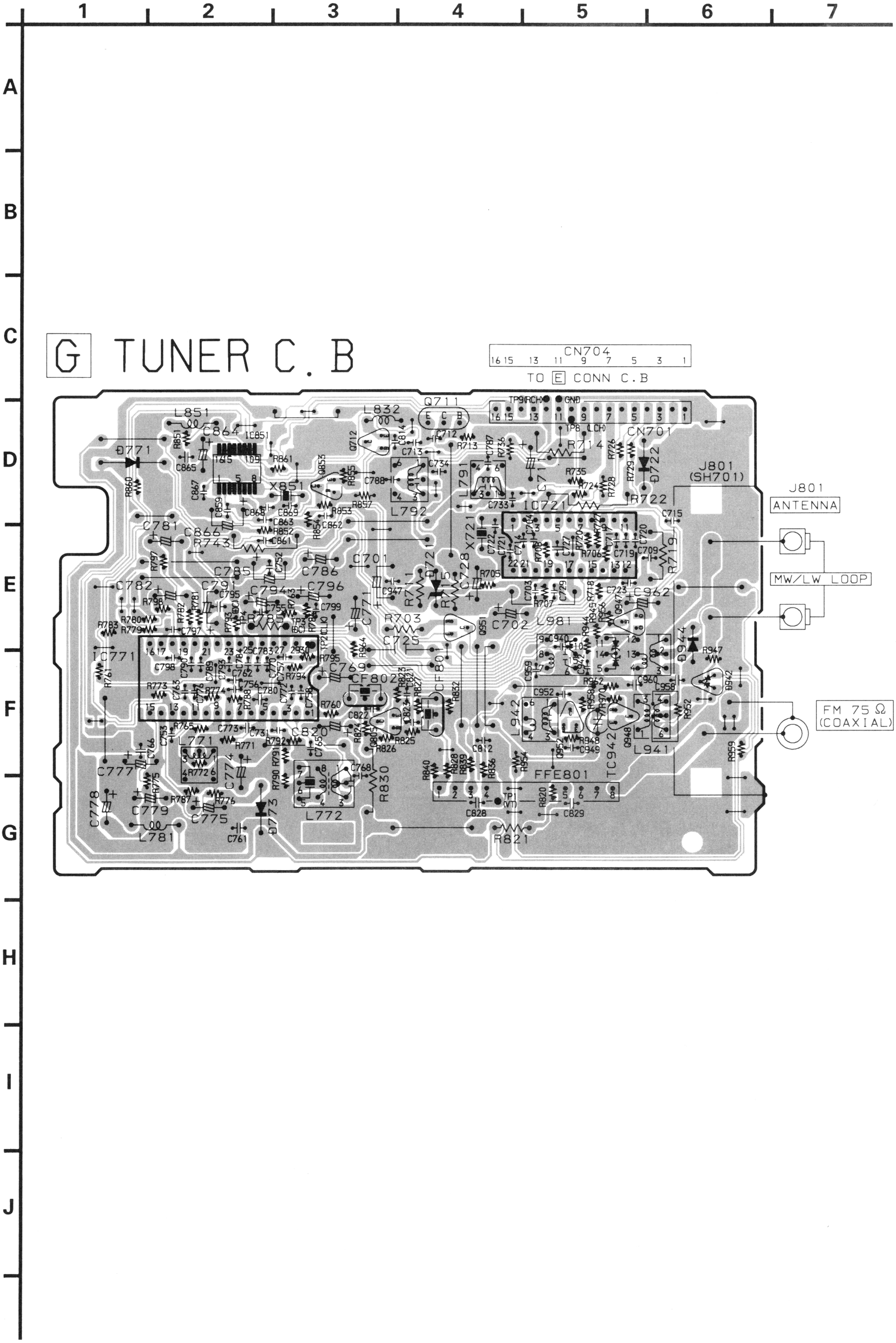
SCHEMATIC DIAGRAM – 2 (TUNER : TX-LM98) <K>


G TUNER C.B
CN701
TO E CONN C.B CN704
A-GND
BEAT
TM-BASE
PLL-CE
DATA
CLK
TUNE/IFC
STEREO
TU-ON
TU-L
A-GND
TU-R
+VM
TUNER-ON
TUN-L
GND
TUN-R
+VM 11.5
(LCH) TP6
GND
TP7 (RCH)
IC721 LC72131D
X721 4.500MHz
PLL
Q711 2SC4115SRS
TUNER SW
L771 DC BALANCE/ MONO DISTORTION ADJ
L771 FM DET-2N (TOK)
L772 AM IF ADJ
L772 PCFAZH-450 (TOK)
IC771 LA1837NL
DECODER
BUFFERS
DET OUT
TUN-R
TUN-L
L791 1 POLE MPX (TOK)
L792 1 POLE MPX (TOK)
Q805 FM IF AMP
L832 2.2μH
Q712 RT1P144C
FM BAND SW
CF802 MS2 GHY. R
CF801 SFE 10.7 MS3G-A
Q805 2SC2714
FFE801 FM FRONTEND PACK 6ZA-1 FEENM
(SH701)
J801 ANTENNA
FM 75Ω (COAXIAL)
MW/LW LOOP
Q951 RT1P141C
MW BAND SW
Q947 2SK543-TB (4/5)
MW RF AMP
L981 (2/3) AM PACK 2N (TOM)
L981 (3/3) AM PACK 2N (TOM)
MW TRACKING ADJ
Q944 1SS133
Q942 MC2838
L981 (1/3) AM PACK 2N (TOM)
REO
AM LO
AM RF
L942 OSC LW (CO1) 856KHz
Q952 CSD1306
LW BAND SW
Q948 CSD1306
LW BAND SW
L941 ANT LW (CO1) 252KHz
L942 LW VT ADJ
L941, TC942 LW TRACKING ADJ
TP1 (VT)
TP2 (CLK)
SIGNAL:
:FM
:MW/LW

SCHEMATIC DIAGRAM – 3 (TUNER : TX-LM99) <EZ>

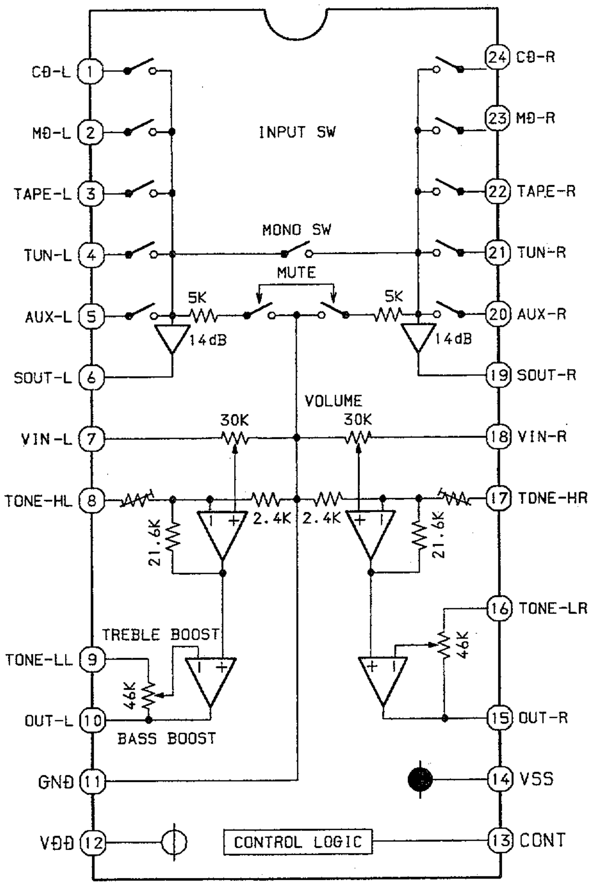

G TUNER C.B
CN701
TO E CN704 CONN C.B
A-GND
BEAT
TM-BASE
PLL-CE
DATA
CLK
TUNE/IFC
STEREO
TUNER-ON
TU-L
A-GND
TU-R
TUNER VM
RDS-SIG
RDS-DATA
RDS-CLK
Q853 2SC3052 F
BUFFER AMP
IC851 BU1920FS
RDS
X721 4.500MHz
IC721 LC72131D
PLL
Q711 2SC4115SRS
TUNER SW
IC771 LA1837NL
DECODER
BUFFERS
DET OUT
L771
DC BALANCE/
MONO DISTORTION ADJ
L771 FM DET-2N (TOK)
L772
AM IF ADJ
L772 PCFAZH-450 (TOK)
Q805 2SC2714 (O)
FM IF AMP
CF801 SFE 10.7 MS30-A
CF802 MS2 GNY, R
L832 2.2μH
Q712 RT1P144C
FM BAND SW
FFE801
FM FRONTEND PACK
6ZA-1 FEENM
J801
ANTENNA
FM 75Ω (COAXIAL)
MW/LW LOOP
(SH701)
Q951 RT1P141C
MW BAND SW
Q947 2SK543-TB (4/5)
MW RF AMP
L981 (2/3) AM PACK 2N (TOM)
L981 (3/3) AM PACK 2N (TOM)
L981 (1/3) AM PACK 2N (TOM)
MW TRACKING ADJ
D944 1SS133
D942 MC2838
TP1 (VT)
Q952 CSD1306 E
LW BAND SW
Q948 CSD1306 E
L942 OSC LW (C01) 856KHz
L941 ANT LW (C01) 252KHz
L942 LW VT ADJ
L941, TC942 LW TRACKING ADJ
AM RF
AM LO
REG
TUN-L
TUN-R
L791 1 POLE MPX (TOK)
L792 1 POLE MPX (TOK)
SIGNAL:
:FM
:MW/LW

WIRING – 3 (TUNER : TX-LM99) <EZ>

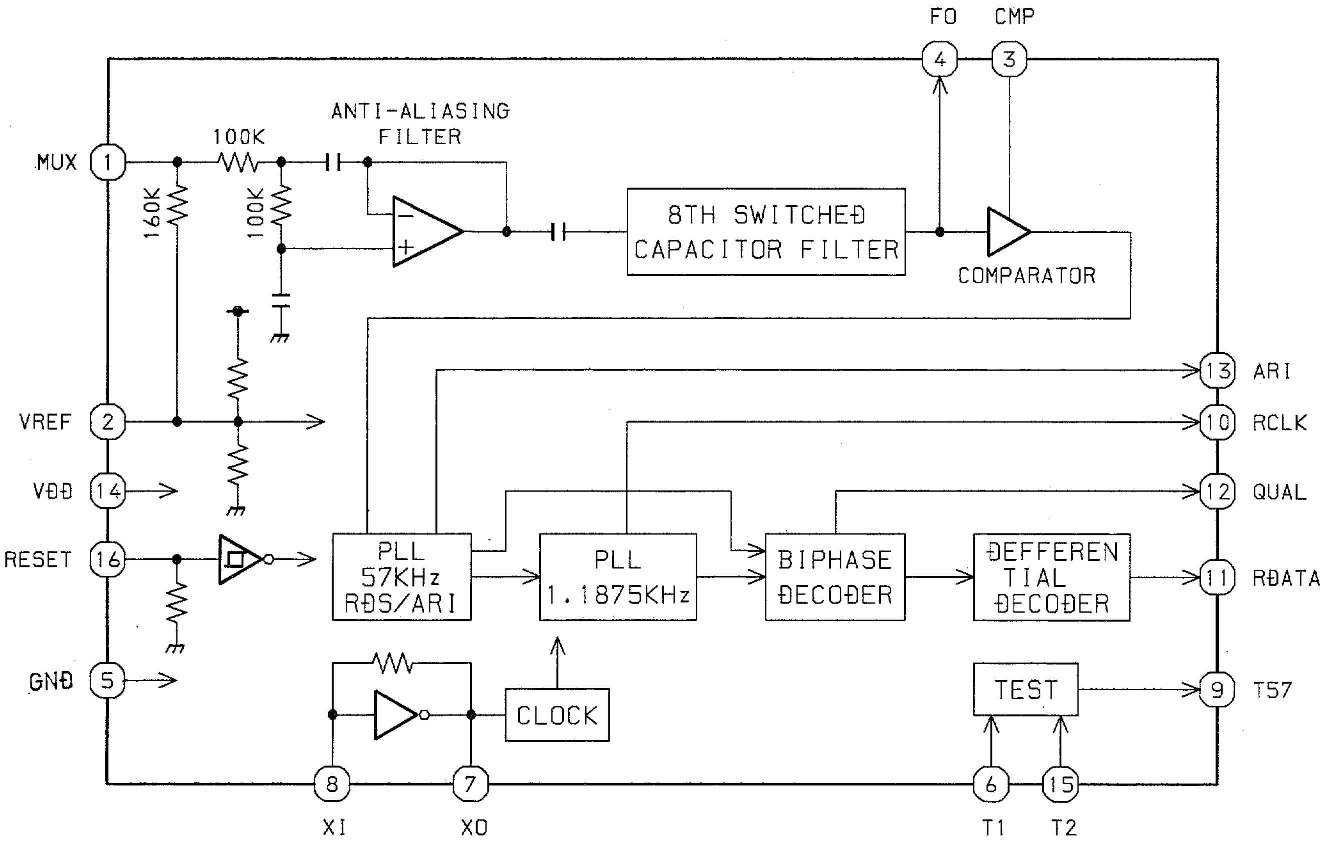

1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
G TUNER C.B
CN704
16 15 13 11 9 7 5 3 1
TO E CONN C.B
J801
ANTENNA
MW/LW LOOP
FM 75 Ω
(COAXIAL)
J801
(SH701)
CN701
IC721
IC771
IC851
L851
L832
Q711
E C B
TP9(RCH)
GND
TP8 (LCH)
D771
D722
D721
D773
C864
C781
C866
R743
C785
C786
C701
C782
C791
C794
C796
C771
R703
C725
C702
L981
C962
R714
R722
R719
R735
R724
R728
R729
R726
X851
X721
L792
L791
C728
R711
CF801
CF802
C769
C820
L771
L772
L781
C777
C778
C779
C775
C761
C774
R830
R821
FFE801
TC942
L942
L941
Q942
Q944
Q948
Q952
Q951
Q712
R947
R952
R959
C828
C829
TP1 (VT)
TP2 (CLK)
TP3 (DC)
R820

IC BLOCK DIAGRAM – 2 (TX-LM98 / 99)

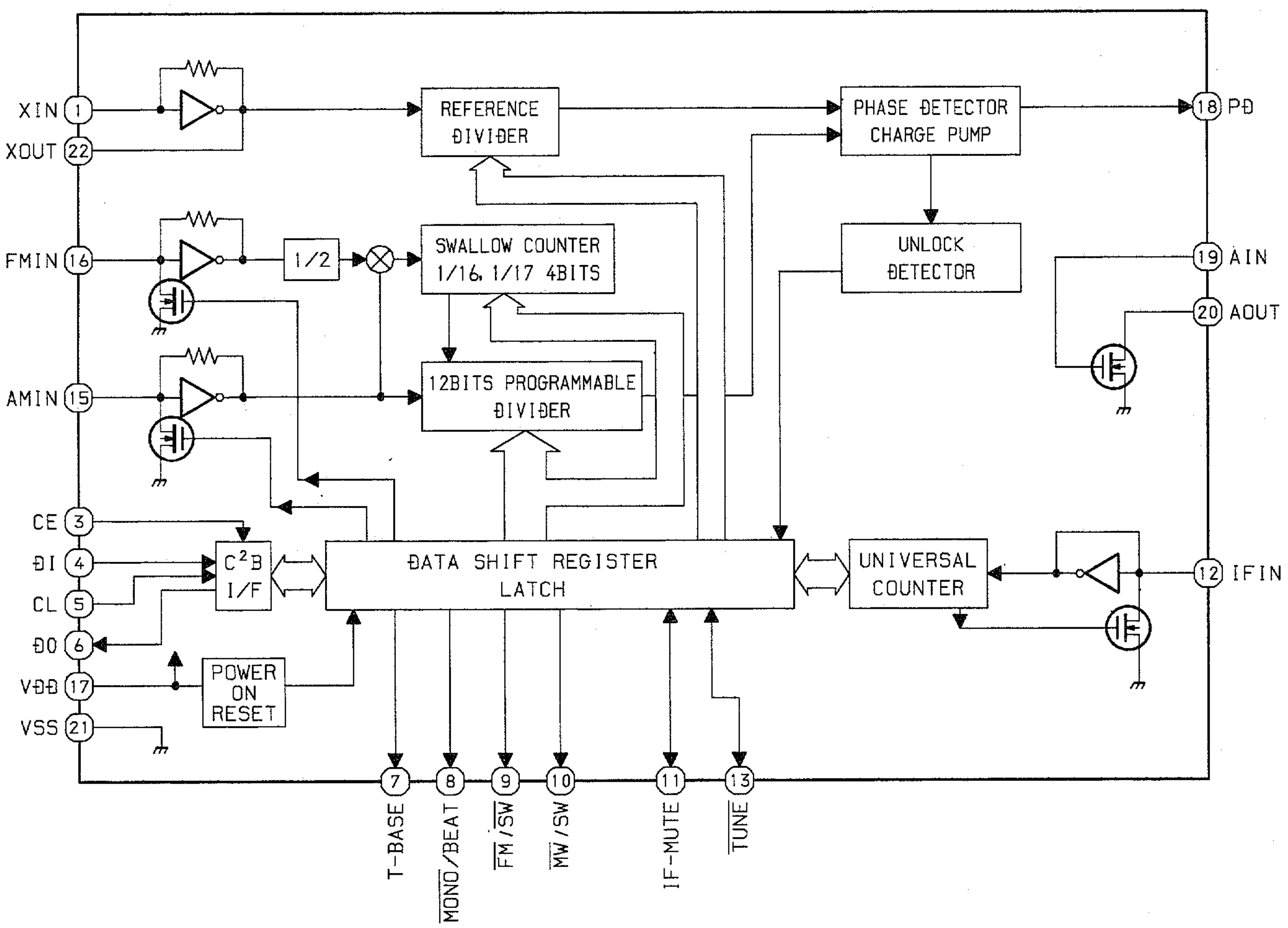
IC, M62495FP


CD-L 1
MD-L 2
TAPE-L 3
TUN-L 4
AUX-L 5
SOUT-L 6
VIN-L 7
TONE-HL 8
TONE-LL 9
OUT-L 10
GND 11
VDD 12
24 CD-R
23 MD-R
22 TAPE-R
21 TUN-R
20 AUX-R
19 SOUT-R
18 VIN-R
17 TONE-HR
16 TONE-LR
15 OUT-R
14 VSS
13 CONT
INPUT SW
MONO SW
MUTE
5K
5K
14dB
14dB
VOLUME
30K
30K
2.4K
2.4K
21.6K
21.6K
TREBLE BOOST
BASS BOOST
46K
46K
CONTROL LOGIC

IC, BU1920FS <YEZ ONLY>

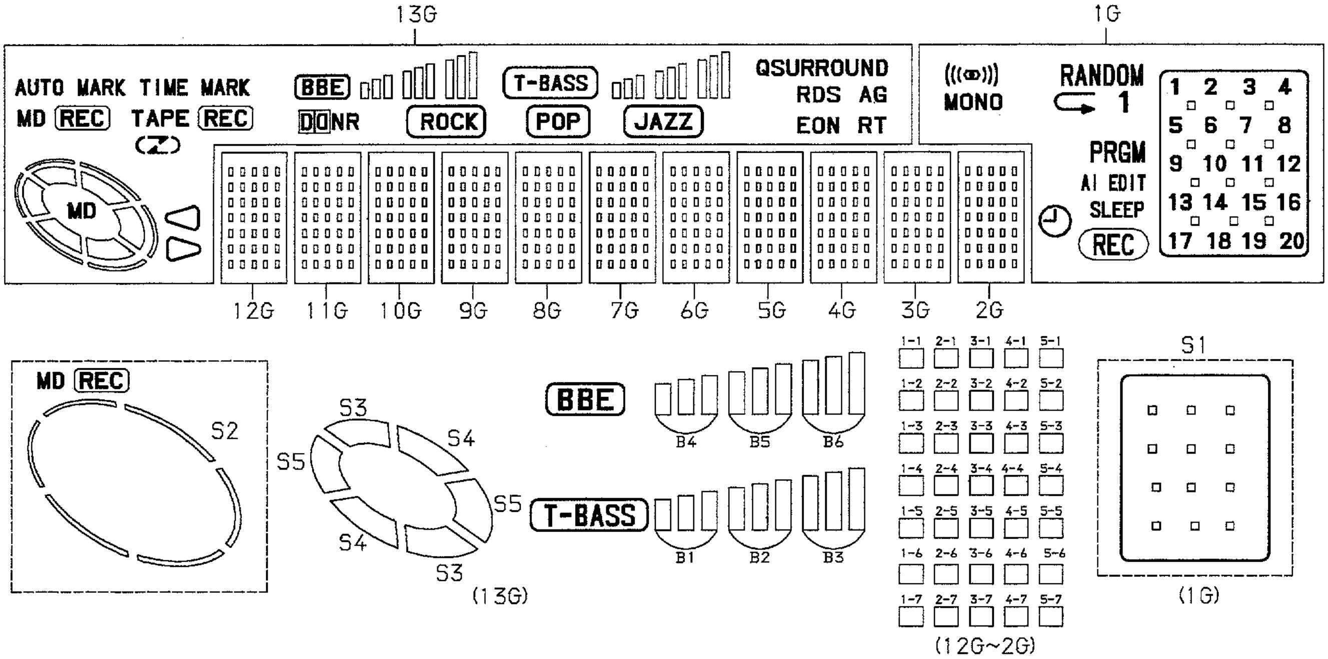

FO
CMP
4
3
MUX 1
VREF 2
VDD 14
RESET 16
GND 5
100K
160K
100K
ANTI-ALIASING FILTER
8TH SWITCHED CAPACITOR FILTER
COMPARATOR
13 ARI
10 RCLK
12 QUAL
11 RDATA
9 T57
PLL 57KHz RDS/ARI
PLL 1.1875KHz
BIPHASE DECODER
DEFFEREN TIAL DECODER
CLOCK
TEST
8
7
6
15
XI
XO
T1
T2

IC, LC72131D


XIN 1
XOUT 22
FMIN 16
AMIN 15
CE 3
DI 4
CL 5
DO 6
VDD 17
VSS 21
REFERENCE DIVIDER
1/2
SWALLOW COUNTER 1/16, 1/17 4BITS
12BITS PROGRAMMABLE DIVIDER
PHASE DETECTOR CHARGE PUMP
UNLOCK DETECTOR
18 PD
19 AIN
20 AOUT
12 IFIN
C²B I/F
DATA SHIFT REGISTER LATCH
UNIVERSAL COUNTER
POWER ON RESET
7 T-BASE
8 MONO/BEAT
9 FM/SW
10 MW/SW
11 IF-MUTE
13 TUNE

FL (13-ST-36GNK) GRID ASSIGNMENT / ANODE CONNECTION / PIN CONNECTION (TX-LM98 / 99)

GRID ASSIGNMENT



13G
1G
AUTO MARK TIME MARK
MD REC TAPE REC
MD
BBE
D NR
ROCK
T-BASS
POP
JAZZ
QSURROUND
RDS AG
EON RT
MONO
RANDOM
1
PRGM
AI EDIT
SLEEP
REC
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
17 18 19 20
12G
11G
10G
9G
8G
7G
6G
5G
4G
3G
2G
MD REC
S2
S3
S4
S5
S5
S4
S3
(13G)
BBE
B4
B5
B6
T-BASS
B1
B2
B3
1-1 2-1 3-1 4-1 5-1
1-2 2-2 3-2 4-2 5-2
1-3 2-3 3-3 4-3 5-3
1-4 2-4 3-4 4-4 5-4
1-5 2-5 3-5 4-5 5-5
1-6 2-6 3-6 4-6 5-6
1-7 2-7 3-7 4-7 5-7
(12G~2G)
S1
(1G)

ANODE CONNECTION

	13G	12G~2G	1G
P1	JAZZ	1-1	1
P2	POP	2-1	↪
P3	ROCK	3-1	MONO
P4	DD NR	4-1	RANDOM
P5	RT	5-1	((·OO·))
P6	EON	1-2	PRGM
P7	AG	2-2	AI
P8	RDS	3-2	EDIT
P9	B1	4-2	SLEEP
P10	B2	5-2	◷
P11	B3	1-3	REC
P12	T-BASS	2-3	1
P13	B4	3-3	2
P14	B5	4-3	3
P15	B6	5-3	4
P16	BBE	1-4	5
P17	◁	2-4	6
P18	▷	3-4	7

	13G	12G~2G	1G
P19	)	4-4	8
P20	Z	5-4	9
P21	(	1-5	10
P22	TAPE REC	2-5	11
P23	S2	3-5	12
P24	S3	4-5	13
P25	S4	5-5	14
P26	S5	1-6	15
P27	MD	2-6	16
P28	TIME MARK	3-6	17
P29	AUTO MARK	4-6	18
P30	QSURROUND	5-6	19
P31	-	1-7	20
P32	-	2-7	S1
P33	-	3-7	-
P34	-	4-7	-
P35	-	5-7	-

PIN CONNECTION

PIN NO.	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39
CONNECTION	F2	F2	NP	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G

PIN NO.	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23
CONNECTION	P35	P34	P33	P32	P31	P30	P29	P28	P27	P26	P25	P24	P23	P22	P21	P20

PIN NO.	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7
CONNECTION	P19	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4

PIN NO.	6	5	4	3	2	1
CONNECTION	P3	P2	P1	NP	F1	F1

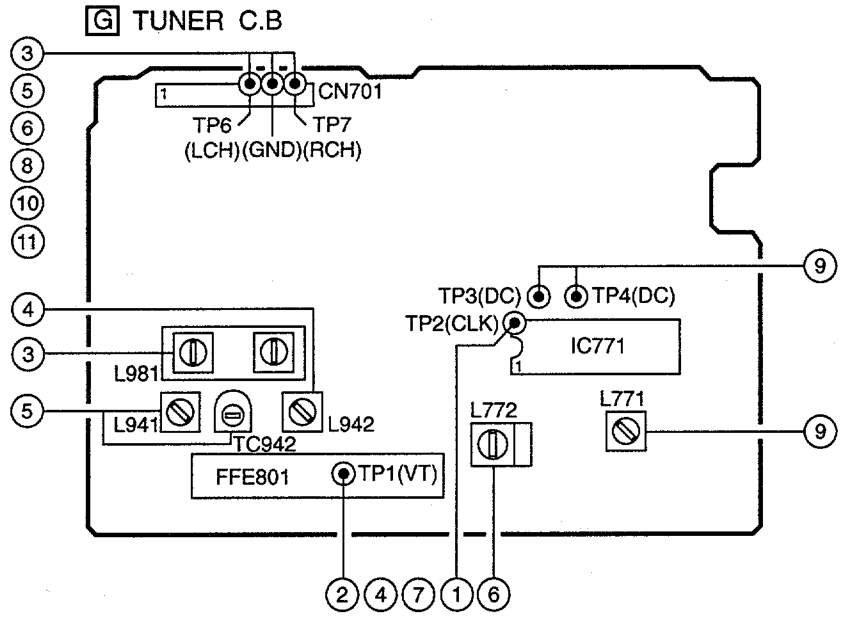
IC DESCRIPTION (TX-LM98/99)

IC, LC876580W-5M70

Pin No.	Pin Name	I/O	Description
1	STEREO/CD DRF	I	Detection of tuner stereo/ Connection of LA9241ML 54 pin.
2	TUDO/CD SQOUT	I	Connection of TUNER PLL LC72131D 6pin DO.
			Connection of CD DSP LC78622ED 55pin SQOUT.
3	COIN/ F-DATA	O	Connection of DSP LC78622ED 56pin COIN.
			Output of LA9241ML 52pin DATA rear shift register data in BU4094BCF.
4	NC	–	Not connected.
5	RDSDATA	I	Input of RDS DATA.
6	CLK	O	Connection of main shift register BU4094BCF 3pin.
			Connection of TUNER PLL LC72131D 5pin.
7	DATA	O	Connection of main shift register BU4094BCF 2pin
			Connection of TUNER PLL LC72131D 4pin.
8	VOL CTL	O	Connection of IC M62495FP 13pin.
9	TMBASE	I	Connection of PLL IC LC72131D 7pin : input of standard clock.
10	CKSFT	O	Output of clock shift : "L" state in case of shift.
11	RES	I	Micom reset.
12	ACOFF	I	Detection of HOLD state.
13	RDS-SIG	I	Input of RDS signal level A/D.
14	VSS1	–	GND.
15	CF1	–	Connection of 5.76MHz oscillator.
16	CF2	–	Connection of 5.76MHz oscillator.
17	VDD1	–	U-COM 5V.
18	TUNER KEY	I	Input of TUNER A/D key.
19	AMP KEY	I	Input of AMP A/D key.
20	CD/DECK KEY	I	Input of CD/DECK A/D key.
21	MD KEY	I	Input of MD A/D key.
22	CDTSW/ DECK REC SW	I	Input of CD TRAY SW/DECK REC SW A/D.
23	DK MODE	I	Input of DECK MODE 1/2/3 SW A/D.
24	VOL/JOG	I	Input of VOL/MULTI JOG ENCODER-A/B A/D.
25	LC72131 CE	O	Connection of tuner PLL IC LC72131D 3pin.
26	LEVEL (A/D)	I	Input of level meter.
27	SUB MOTOR	O	Output of deck sub motor CW&CCW.
28	RDS CLK/CD WRQ	I	Input of RDS CLK / CD DSP LC78622ED 53pin.
29	RMC	I	Input of remocon.
30 ~ 42	G13 ~ 01	O	Output of FL GRID.
43 ~ 45	P35 ~ 33	O	Output of FL segment.
46	VDD3	–	U-COM 5V.
47 ~ 50	P32 ~ 29	O	Output of FL segment.
51	–VFL	–	Minus source of FL.
52 ~63	P28 ~17	O	Output of FL segment.
64	P16/BBE	O/I	Output of FL segment P16 / Input of INT diode matrix BBE (Not used).
65	P15/DOLBY	O/I	Output of FL segment P15 / Input of INT diode matrix DOLBY (Not used).

Pin No.	Pin Name	I/O	Description
66	P14/$\overline{\text{AM10K}}$	O/I	Output of FL segment P14 / Input of INT diode matrix AM10K (Not used).
67	P13/FMWIDE&AMST	O/I	Output of FL segment P13 / Input of INT diode matrix FMWIDE&AMST (Not used).
68	P12/LW	O/I	Output of FL segment P12 / Input of INT diode matrix LW.
69	P11/SW	O/I	Output of FL segment P11 / Input of INT diode matrix SW (Not used).
70	P10/OIRT	O/I	Output of FL segment P10 / Input of INT diode matrix OIRT (Not used).
71	P9/RDS	O/I	Output of FL segment P09 / Input of INT diode matrix RDS.
72	VDD4	–	U-COM 5V.
73 ~ 79	P08 ~ 02	O	Output of FL segment .
80	P1/DK AUTO	O	Output of FL segment P1/ Input of DECK MECHA auto stop pulse state.
81	QSURR	O	Output of Q-SURROUND IC control ON/OFF.
82	SWSCAN	O	KEY SCAN DETECTION TIMING SW.
83	NC	–	Not connected.
84	F-STD	O	Connection of rear shift register BU4094BCF 1pin.
85	BBE A	O	BBE control A.
86	BBE B	O	BBE control B.
87	PWR ON	O	SET SOURCE.
88	$\overline{\text{MD RST}}$	O	Signal output of MD unit reset.
89	VSS2	–	GND.
90	VDD2	–	U-COM 5V.
91	CD RWC	O	Connection of CD DSP LC78622ED 54pin RWC & LA9241ML 53pin.
92	$\overline{\text{CQCK}}$/F-CLK	O	Connection of CD DSP LC78622ED 57pin CQCK & LA9241ML 51pin. Output of rear shift register clock in BU4094BCF 3pin.
93	MUTE	O	Output of main mute.
94	M-STB	O	Connection of main shift register BU4094BCF 1pin.
95	MD SIN	O	Output of MD unit control serial data.
96	MD-SOUT	I	Input of MD unit control serial data.
97	MD-ACLK	I	Input of MD unit control serial colck.
98	MD-ARDY	O	Output of MD unit control serial data trans-receiver standard.
99	MD-SREQ	O	Require of MD unit control serial data forward.
100	MD-MREQ	I	Require of MD unit control serial data forward.

ADJUSTMENT – 1 <TUNER : TX-LM98> <K>



< TUNER SECTION >

1. Clock Frequency Check
   Settings : • Test point : TP2 (CLK)
   Method : Set to MW 1602kHz and check that the test point is 2052kHz ± 45Hz.

2. MW VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to MW 1602kHz and check that the test point is less than 8.0V. Then set to MW 531kHz and check that the test point is more than 0.6V.

3. MW Tracking Adjustment
   Settings : • Test point : TP6 (Lch), TP7 (Rch)
   • Adjustment location : L981 (1/3)
   Method : Set to MW 999kHz and adjust L981 (1/3) so that the test point becomes maximum.

4. LW VT Adjustment
   Settings : • Test point : TP1 (VT)
   • Adjustment location : L942
   Method : Set to LW 144kHz and adjust L942 so that the test point becomes 1.3V ± 0.05V.
   Then set to LW 290kHz and check that the test point is less than 8.0V.

5. LW Tracking Adjustment
   Settings : • Test point : TP6 (Lch), TP7 (Rch)
   • Adjustment location :
   L941 .... 144kHz
   TC942 .... 290kHz
   Method : Set up TC942 to center before adjustment.
   The level at 144kHz is adjusted to MAX by L941. Then the level at 290kHz is adjusted to MAX by TC942.

6. AM IF Adjustment
   Settings : • Test point : TP6 (Lch), TP7 (Rch)
   • Adjustment location :
   L772 .... 450kHz

7. FM VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to FM 108.0MHz and check that the test point is less than 8.0V. Then set to FM 87.5MHz and check that the test point is more than 0.5V.

8. FM Tracking Check
   Settings : • Test point : TP6 (Lch), TP7 (Rch)
   Method : Set to FM 98.0MHz and check that the test point is less than 13dBμV.

9. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3,TP4 (DC balance)
   • Adjustment location : L771
   • Input level : 60dBμV
   Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V.
   Next, check that the distortion is less than 1.3%.

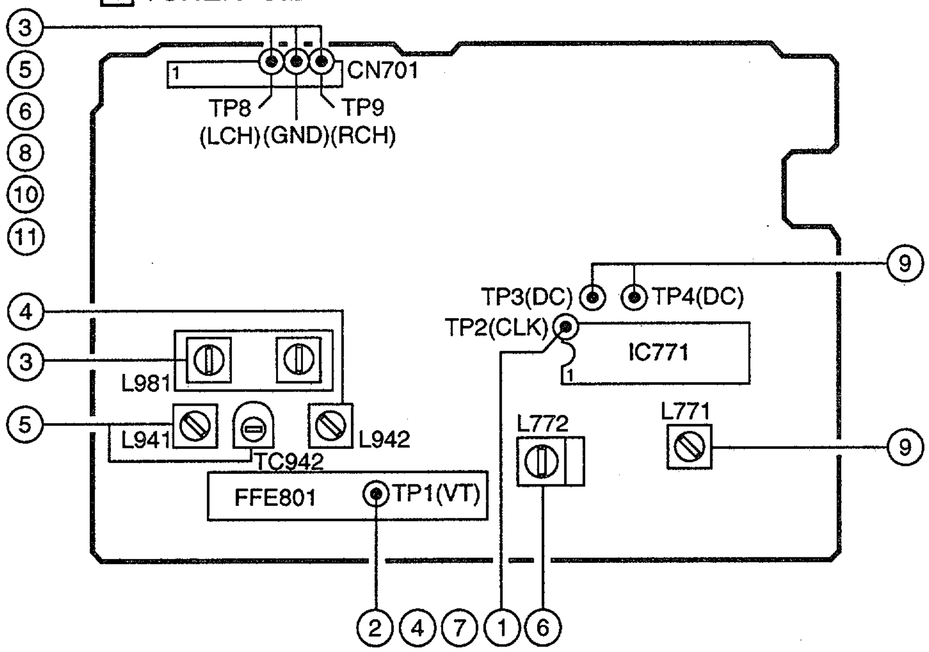
10. Output Level Check
    <MW>
    Settings : • Test point : TP6 (Lch), TP7 (Rch)
    • Input level : 74dBμV
    Method : Set to MW 999kHz and check that the test point is 130mV ± 3dB.

    <FM>
    Settings : • Test point : TP6 (Lch), TP7 (Rch)
    • Input level : 60dBμV
    Method : Set to FM 98.0MHz and check that the test point is 520mV ± 3dB.

11. FM Separation Check
    Settings : • Test point : TP6 (Lch), TP7 (Rch)
    • Input level : 60dBμV
    Method : Set to FM 98.0MHz and check that the test point is more than 25dB.

ADJUSTMENT – 2 <TUNER: TX-LM99> <EZ>

G TUNER C.B



< TUNER SECTION >

1. Clock Frequency Check
   Settings : • Test point : TP2 (CLK)
   Method : Set to MW 1602kHz and check that the test point is 2052kHz ± 45Hz.

2. MW VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to MW 1602kHz and check that the test point is less than 8.0V. Then set to MW 531kHz and check that the test point is more than 0.6V.

3. MW Tracking Adjustment
   Settings : • Test point : TP8 (Lch), TP9 (Rch)
   • Adjustment location : L981 (1/3)
   Method : Set to MW 999kHz and adjust L981 (1/3) so that the test point becomes maximum.

4. LW VT Adjustment
   Settings : • Test point : TP1 (VT)
   • Adjustment location : L942
   Method : Set to LW 144kHz and adjust L942 so that the test point becomes 1.3V ± 0.05V.
   Then set to LW 290kHz and check that the test point is less than 8.0V.

5. LW Tracking Adjustment
   Settings : • Test point : TP8 (Lch), TP9 (Rch)
   • Adjustment location :
   L941 .... 144kHz
   TC942 .... 290kHz
   Method : Set up TC942 to center before adjustment. The level at 144kHz is adjusted to MAX by L941. Then the level at 290kHz is adjusted to MAX by TC942.

6. AM IF Adjustment
   Settings : • Test point : TP8 (Lch), TP9 (Rch)
   • Adjustment location :
   L772............................ 450kHz

7. FM VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to FM 108.0MHz and check that the test point is less than 8.0V. Then set to FM 87.5MHz and check that the test point is more than 0.5V.

8. FM Tracking Check
   Settings : • Test point : TP8 (Lch), TP9 (Rch)
   Method : Set to FM 98.0MHz and check that the test point is less than 13dBμV.

9. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3,TP4 (DC balance)
   • Adjustment location : L771
   • Input level : 60dBμV
   Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V.
   Next, check that the distortion is less than 1.3%.

10. Output Level Check
    <MW>
    Settings : • Test point : TP8 (Lch), TP9 (Rch)
    • Input level : 74dBμV
    Method : Set to MW 999kHz and check that the test point is 130mV ± 3dB.

    <FM>
    Settings : • Test point : TP8 (Lch), TP9 (Rch)
    • Input level : 60dBμV
    Method : Set to FM 98.0MHz and check that the test point is 520mV ± 3dB.

11. FM Separation Check
    Settings : • Test point : TP8 (Lch), TP9 (Rch)
    • Input level : 60dBμV
    Method : Set to FM 98.0MHz and check that the test point is more than 25dB.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity :	8 + 6 / – 10dBμV
(THD 3%)	[at 87.5 / 98.0MHz]
	10 + 6 / – 10dBμV
	[at 108.0MHz]
Signal to noise ratio :	More than 60dB
(Input 66dBμV)	[at 98.0MHz]
Distortion :	Less than 1.5%
(Input 66dBμV)	[at 98.0MHz]
Auto stop level :	25dBμV ±10dB
	[at 98.0MHz]
Stereo separation :	More than 16dB
	[at 98.0MHz]
Intermediate frequency :	10.7MHz

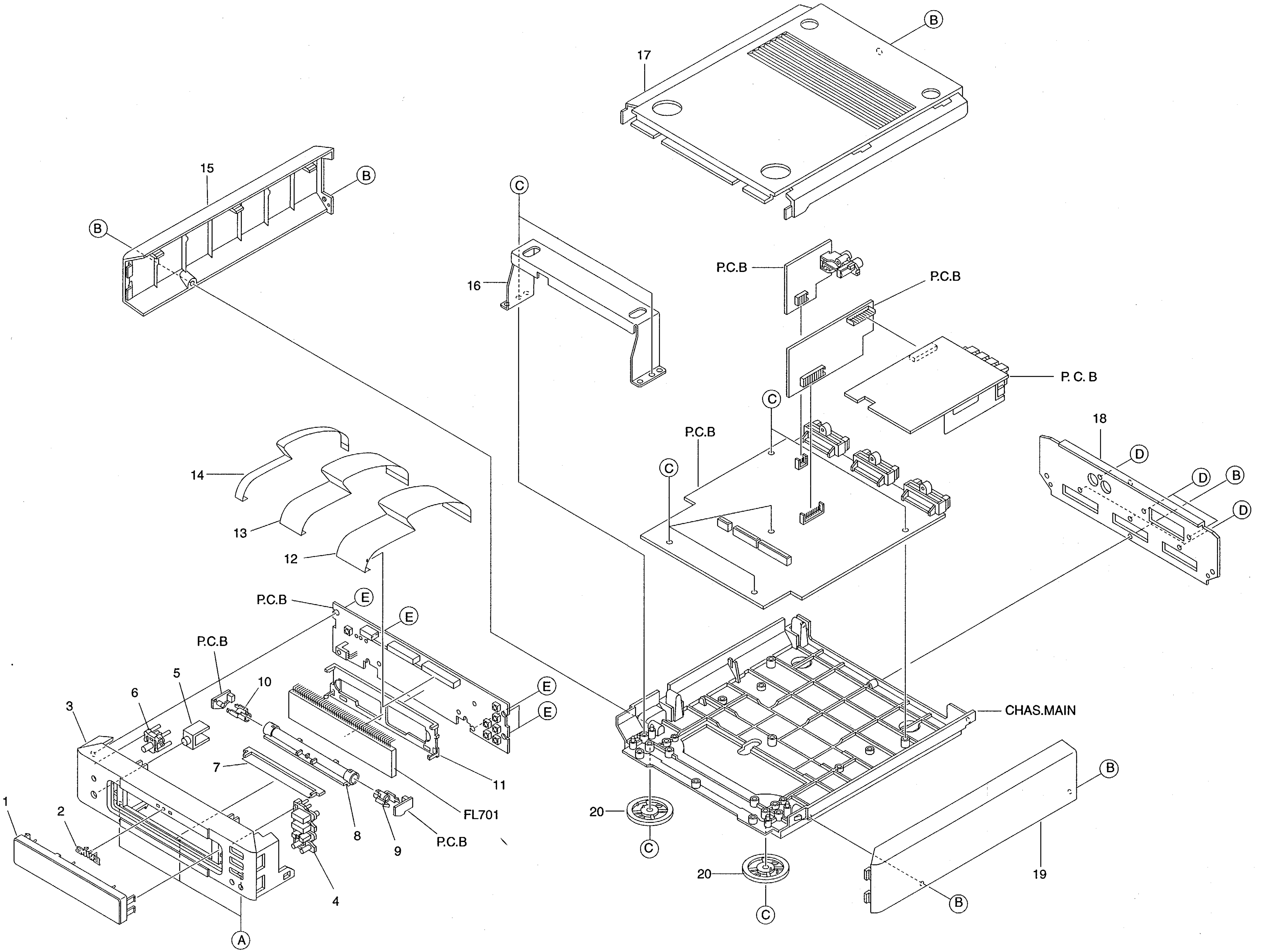
<MW SECTION>

Sensitivity :	54dBμV± 6dBμV
(S/N 20 dB)	[at 603kHz]
	52dBμV± 6dBμV
	[at 999/1404kHz]
Signal to noise ratio :	More than 36dB
(Input 100dBμV)	[at 999kHz]
Distortion :	Less than 8.0%
(Input 115dBμV)	[at 999kHz]
Auto stop level :	50dBμV +10/–15dB
	[at 999kHz]
Intermediate frequency :	450kHz

<LW SECTION>

Sensitivity :	67dBμV± 5dBμV
(S/N 20 dB)	[at 144kHz]
	62dBμV± 5dBμV
	[at 198kHz]
	60dBμV± 5dBμV
	[at 290kHz]
Intermediate frequency :	450kHz

MECHANICAL EXPLODED VIEW 1 / 1 (TX-LM98 / 99)


17
B
15
B
B
C
16
P.C.B
P.C.B
P. C. B
C
P.C.B
C
18
D
D
B
D
14
13
12
P.C.B
E
E
P.C.B
5
10
6
3
E
E
CHAS.MAIN
7
11
1
2
FL701
8
9
P.C.B
20
C
B
20
C
19
B
4
A

MECHANICAL PARTS LIST 1 / 1 (TX-LM98 / 99)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-CF3-005-010		WINDOW,DISPLAY
2	8Z-CC3-007-010		BADGE,AIWA 27.5 ABS SIL
3	8Z-CF3-001-010		CABI,FR TUNER<K>
3	8Z-CF3-009-010		CABI,FR TUNER (EZ)<EZ>
4	8Z-CF3-008-010		KEY,TUNER
5	8Z-CF3-006-010		WINDOW,SENSOR
6	8Z-CF3-007-010		KEY,DEMO
7	8Z-CE3-007-010		REFLECTOR,FR
8	8Z-CE3-202-010		GUIDE,LED CNT
9	8Z-CE3-204-010		GUIDE,LED R
10	8Z-CE3-203-010		GUIDE,LED L
11	8Z-CF3-202-010		GUIDE,FL
12	88-930-151-110		FF-CABLE,30P 1.25
13	88-920-151-110		FF-CABLE,20P 1.25
14	88-908-151-110		FF-CABLE,8P 1.25-150MM
15	8Z-CF3-002-010		PANEL,SIDE L LOW
16	8Z-CF3-203-010		PLATE,TOP TUNER
17	8Z-CE3-005-010		PANEL,TOP
18	8Z-CF3-010-010		PANEL,REAR TUNER (EZ)<EZ>
18	8Z-CF3-015-010		PANEL,REAR TUNER (K)<K>
19	8Z-CF3-003-010		PANEL,SIDE R LOW
20	8Z-CE3-006-010		FOOT,DIA40 H4
A	87-721-096-410		QT2+3-10 GLD
B	87-067-761-010		TAPPING SCREW, BVT2+3-10
C	87-067-703-010		TAPPING SCREW, BVT2+3-10
D	87-067-660-010		TAPPING SCREW, BVT2+3-8
E	87-078-060-010		BVIT3PB+3-10

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

MODEL NO.

DX-LM99

DISASSEMBLY INSTRUCTIONS

1. Top Panel and Side Panels L/R Removal

1) Remove 3 screws Ⓐ from the rear of unit. (See Fig-1)

2) Remove 2 screws Ⓑ from side panels L/R. (See Fig-1)

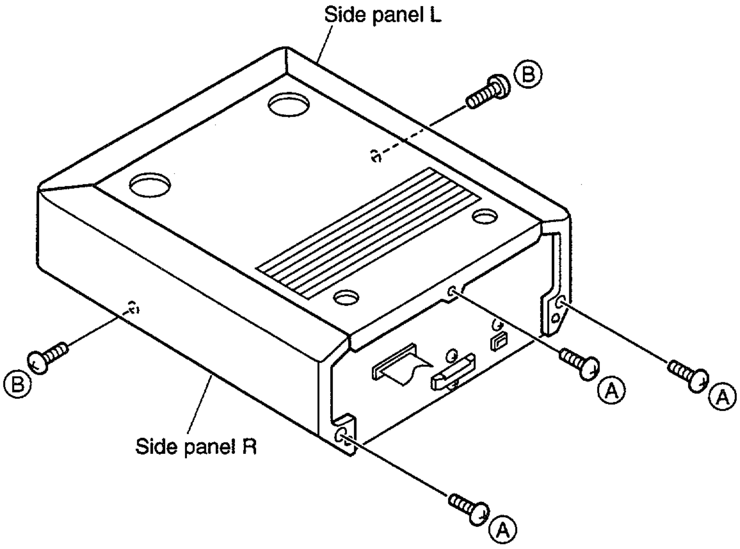

Side panel L
Ⓑ
Ⓑ
Side panel R
Ⓐ
Ⓐ
Ⓐ

Fig-1

3) Remove side panels L/R in the directions of arrows Ⓐ and Ⓑ. (See Fig-2)

4) Remove the tope panel in the direction of arrow Ⓒ. (See Fig-2)

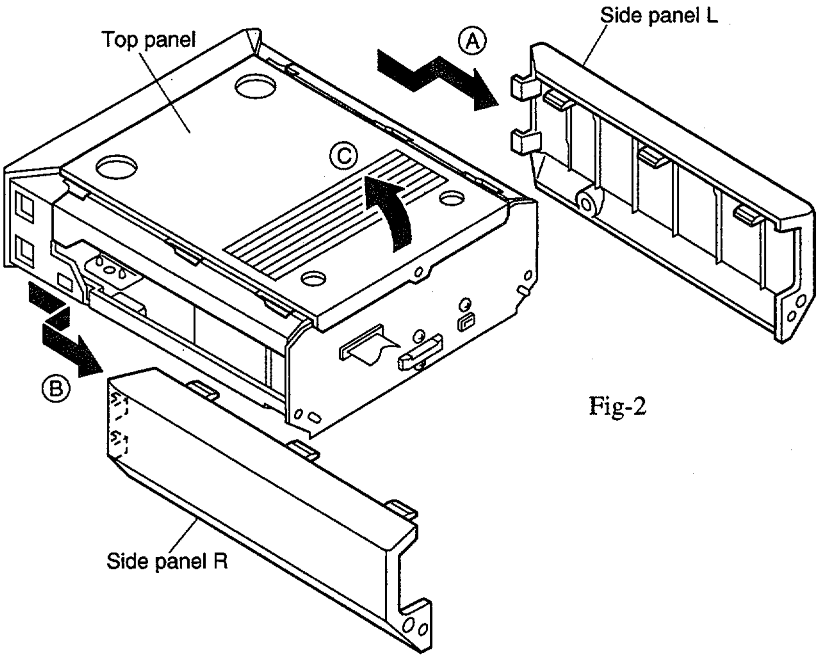

Top panel
Ⓐ
Side panel L
Ⓒ
Ⓑ
Side panel R

Fig-2

ELECTRICAL MAIN PARTS LIST (DX-LM99)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

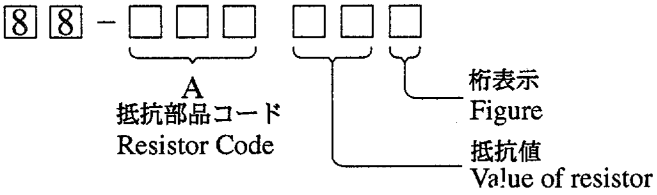
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A20-446-010		C-IC,LA9241ML
	87-A20-459-010		C-IC,LC78622ED
	87-A20-445-010		IC,BA5936
	87-017-915-080		IC,BU4094BCF
	87-017-825-010		IC,GP1F32T
	87-A21-326-010		IC,TC74HC154AP
TRANSISTOR			
	87-026-463-080		TR,2SA933S (0.3W)
	87-026-239-080		TR,DTC114TK (0.2W)
	88-NF9-637-010		TR,2SA1318T/U
	87-026-297-080		TR,DTA144TK
	87-A30-047-080		TR,CSD655E
	87-026-580-080		C-TR,DTA123JK
	87-026-238-080		CHIP-TR,DTC114WK
	87-026-233-080		TR,DTA114TK
DIODE			
	87-A40-291-080		DIODE,1N4148 (CPT)
	87-017-931-080		ZENER,MTZJ5.6B
MAIN C.B			
C1	87-010-403-080		CAP, ELECT 3.3-50V
C2	87-010-197-080		CAP, CHIP 0.01 DM
C3	87-010-263-080		CAP, ELECT 100-10V
C4	87-010-248-080		CAP, ELECT 220-10V
C5	87-010-197-080		CAP, CHIP 0.01 DM
C6	87-010-374-080		CAP, ELECT 47-10V
C7	87-012-349-080		C-CAP,S 1000P-50 CH
C8	87-010-198-080		CAP, CHIP 0.022
C9	87-010-248-080		CAP, ELECT 220-10V
C10	87-010-263-080		CAP, ELECT 100-10V
C12	87-010-401-080		CAP, ELECT 1-50V
C13	87-010-193-080		CHIP CAPACITOR,0.033
C14	87-010-405-080		CAP, ELECT 10-50V
C15	87-018-209-080		CAP,TC U 0.1-50 ZF
C17	87-012-157-080		C-CAP,S 330P-50 CH
C18	87-010-213-080		C-CAP,S 0.015-50 B
C20	87-010-193-080		CHIP CAPACITOR,0.033
C22	87-010-183-080		C-CAP,S 2700P-50 B
C23	87-010-956-080		CHIP-CAP,S 0.068-25B
C25	87-010-994-080		C-CAP,S 680P-50 CH
C28	87-010-197-080		CAP, CHIP 0.01 DM
C29	87-010-186-080		CAP,CHIP 4700P
C30	87-012-156-080		C-CAP,S 220P-50 CH
C31	87-010-400-080		CAP, E 0.47-50 M 11L
C32	87-010-374-080		CAP, ELECT 47-10V
C33	87-010-401-080		CAP, ELECT 1-50V
C34	87-010-184-080		CHIP CAPACITOR 3300P(K)
C35	87-010-197-080		CAP, CHIP 0.01 DM
C36	87-010-374-080		CAP, ELECT 47-10V
C37	87-010-404-080		CAP, ELECT 4.7-50V
C38	87-010-196-080		CHIP CAPACITOR,0.1-25
C39	87-012-349-080		C-CAP,S 1000P-50 CH
C40	87-010-145-080		C-CAP,S 1P-50 CH
C42	87-010-314-080		C-CAP,S 22P-50V
C45	87-010-196-080		CHIP CAPACITOR,0.1-25
C46	87-010-196-080		CHIP CAPACITOR,0.1-25
C47	87-010-196-080		CHIP CAPACITOR,0.1-25
C48	87-010-315-080		C-CAP,S 27P-50 CH
C50	87-012-140-080		CAP 470P
C51	87-012-156-080		C-CAP,S 220P-50 CH
C55	87-010-263-080		CAP, ELECT 100-10V
C57	87-010-316-080		C-CAP,S 33P-50 CH
C58	87-010-316-080		C-CAP,S 33P-50 CH
C59	87-010-263-080		CAP, ELECT 100-10V
C60	87-010-196-080		CHIP CAPACITOR,0.1-25
C61	87-010-196-080		CHIP CAPACITOR,0.1-25
C62	87-A10-373-080		CAP,E 220-6.3 M SSL
C65	87-010-404-080		CAP, ELECT 4.7-50V
C66	87-010-196-080		CHIP CAPACITOR,0.1-25
C67	87-010-263-080		CAP, ELECT 100-10V
C68	87-010-322-080		C-CAP,S 100P-50 CH
C69	87-012-154-080		C-CAP,S 150P-50 CH
C75	87-010-197-080		CAP, CHIP 0.01 DM
C76	87-A10-102-080		CAP,E 1000-10 REA
C77	87-010-197-080		CAP, CHIP 0.01 DM
C78	87-010-221-080		CAP, ELECT 470-10V
C79	87-010-263-080		CAP, ELECT 100-10V
C80	87-010-197-080		CAP, CHIP 0.01 DM
C81	87-010-405-080		CAP, ELECT 10-50V
C82	87-010-405-080		CAP, ELECT 10-50V
C83	87-010-181-080		CAP,CHIP S 1800P
C84	87-010-181-080		CAP,CHIP S 1800P
C90	87-010-196-080		CHIP CAPACITOR,0.1-25
C93	87-010-197-080		CAP, CHIP 0.01 DM
C94	87-010-196-080		CAP, CHIP 0.1-25 ZF
C96	87-010-197-080		CAP, CHIP 0.01 DM
C110	87-010-196-080		CHIP CAPACITOR,0.1-25
C200	87-012-349-080		C-CAP,S 1000P-50 J CH
CN1	87-A60-424-010		CONN,16P V TOC-B
CN2	87-A60-081-010		CONN,06P H 9604S-06F
CN3	87-A60-082-010		CONN,05P H 9604S-05F
CN101	87-099-562-010		CONN,18P TUC-P18X-B1
FC1	8Z-CX3-608-010		FF-CABLE,16P 1.0 320MM
FC2	88-906-321-110		FF-CABLE,6P 1.25 320MM
FC3	88-905-111-110		FF-CABLE,5P 1.25 110MM
L1	87-003-102-080		COIL, 10UH
L3	87-008-372-080		FILTER, EMIBL01RN1
L4	87-003-152-080		COIL, 100UH
L5	87-003-152-080		COIL, 100UH
R68	87-A50-189-080		C-COIL,S BLM21B272S
SFR130	87-024-437-080		SFR100K,RH063EC
X1	87-A70-046-010		VIB,XTAL 16.934MHZ
FRONT C.B			
CN202	87-A60-083-010		CONN,04P H 9604S-04F
CN203	88-805-020-790		CONN ASSY,2P 70MM
CN204	88-805-020-790		CONN ASSY,2P 70MM
S200	87-A90-696-080		SW,TACT TS2103-03-430
S201	87-A90-696-080		SW,TACT TS2103-03-430
S202	87-A90-696-080		SW,TACT TS2103-03-430
S203	87-A90-696-080		SW,TACT TS2103-03-430
S204	87-A90-696-080		SW,TACT TS2103-03-430
S205	87-A90-696-080		SW,TACT TS2103-03-430
W202	88-904-261-110		FF-CABLE,4P 1.25 260MM
SUB C.B			
C301	87-010-374-080		CAP, ELECT 47-10V
C302	87-010-197-080		CAP, CHIP 0.01 DM
CN303	87-099-555-010		CONN,7P TUC-P
REAR C.B			
C91	87-010-408-080		CAP, ELECT 47-50V
C92	87-010-382-080		CAP, ELECT 22-25V
C95	87-010-197-080		CAP, CHIP 0.01 DM
C101	87-010-322-080		C-CAP,S 100P-50 CH
C102	87-010-322-080		C-CAP,S 100P-50 CH
C103	87-010-322-080		C-CAP,S 100P-50 CH
C104	87-010-322-080		C-CAP,S 100P-50 CH
C107	87-010-197-080		CAP, CHIP 0.01 DM
C108	87-010-374-080		CAP, ELECT 47-10V
C109	87-010-322-080		C-CAP,S 100P-50 CH

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C111	87-010-197-080		CAP, CHIP 0.01 DM
C112	87-010-382-080		CAP, ELECT 22-25V
C113	87-010-405-080		CAP, E 10-50 M 11L
CN102	87-099-573-010		CONN,18P TUC-P18P-B1
CN103	87-A60-063-010		CONN,4P V 9604S-04C
CN104	87-A61-040-010		CONN,20P V WHT 52328
CN105	87-A61-041-010		CONN,15P H BLK 52303-1511<U,LH>
CN304	87-099-566-010		CONN,7P TUC-P7P-B1
LED L C.B			
CN302	87-A60-619-010		CONN,2P V 2MM JMT
D201	87-A40-640-010		LED,SELU1E10CXM BLUE-EF
LED R C.B			
CN301	87-A60-619-010		CONN,2P V 2MM JMT
D202	87-A40-640-010		LED,SELU1E10CXM BLUE-EF

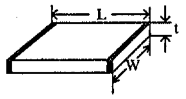
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
DRIVE C.B			
CN5	87-A60-086-010		CONN,06P H 6216
M1	87-045-356-010		MOT,RF-310TA 30
M2	87-045-358-010		MOT,RF-310TA 43
SW1	87-A90-042-010		SW,LEAF MSW-17310MVPO
LOAD C.B			
CN4	87-099-210-010		CONN,5P H BLK 6216
M3	87-045-305-010		MOT,RF-500TB
SW2	87-036-110-010		SW,MICRO SPPB62
SW3	87-036-110-010		SW,MICRO SPPB62

Oチップ抵抗部品コード／CHIP RESISTOR PART CODE

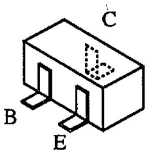
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



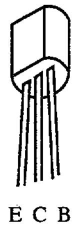
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A Resistor Code : A
				外形／Form	L	W	t	
1/16W	1005	±5%	CJ		1.0	0.5	0.35	104
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

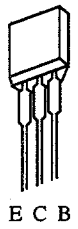
TRANSISTOR ILLUSTRATION (DX-LM99)



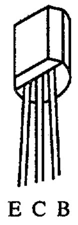
DTC114TK
DTA144TK
DTA123JK
DTC114WK
DTA114TK



CSD655E

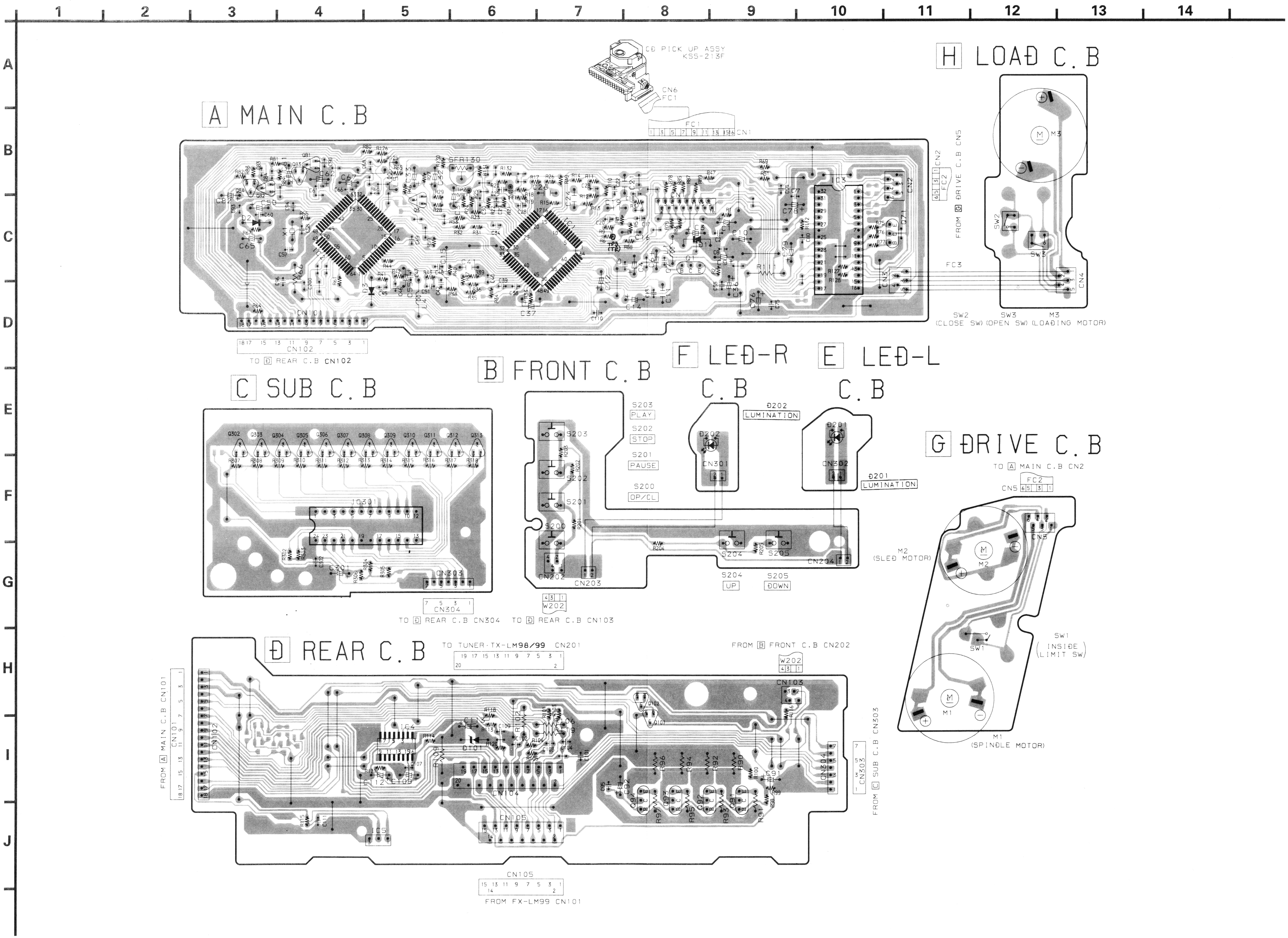


2SA933S

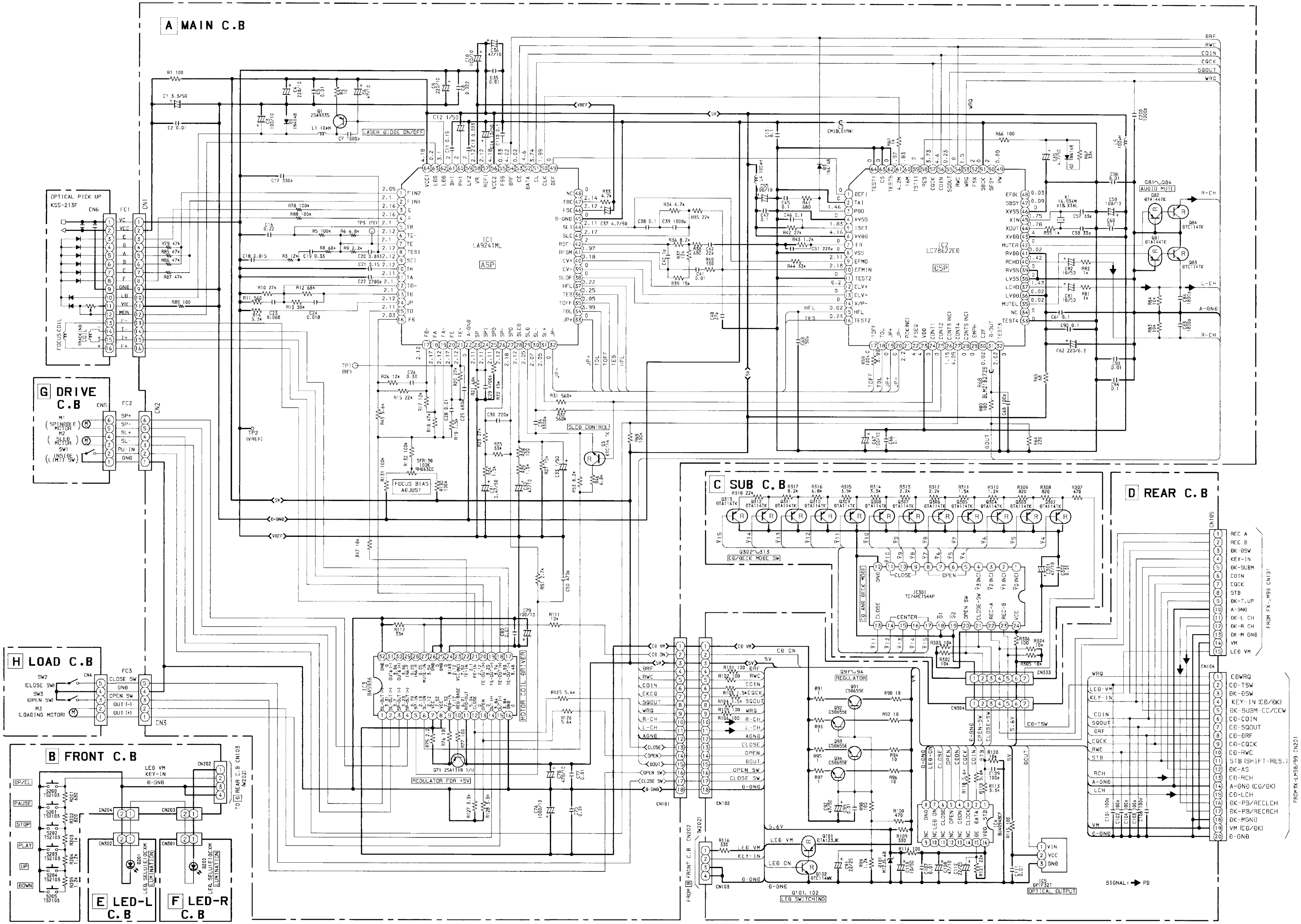


2SA1318T/U

WIRING (MAIN / FRONT / SUB / REAR / LED / DRIVE / LOAD : DX-LM99)


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
CD PICK UP ASSY KSS-213F
CN6
FC1
CN1
A MAIN C.B
CN101
CN102
TO D REAR C.B CN102
IC1
IC2
IC3
SFR130
CN2
CN3
FC3
H LOAD C.B
M3
SW2
SW3
CN4
FROM G DRIVE C.B CN5
FC2
SW2 (CLOSE SW)
SW3 (OPEN SW)
M3 (LOADING MOTOR)
C SUB C.B
IC301
CN303
CN304
TO D REAR C.B CN304
B FRONT C.B
S203 PLAY
S202 STOP
S201 PAUSE
S200 OP/CL
S204 UP
S205 DOWN
CN202
CN203
CN204
W202
TO D REAR C.B CN103
F LED-R C.B
D202 LUMINATION
CN301
E LED-L C.B
D201 LUMINATION
CN302
G DRIVE C.B
TO A MAIN C.B CN2
CN5
M2 (SLED MOTOR)
SW1 (INSIDE LIMIT SW)
M1 (SPINDLE MOTOR)
D REAR C.B
TO TUNER·TX-LM98/99 CN201
FROM B FRONT C.B CN202
FROM A MAIN C.B CN101
CN103
CN104
CN105
IC4
IC5
FROM C SUB C.B CN303
CN105
FROM FX-LM99 CN101

SCHEMATIC DIAGRAM – 1 (MAIN / FRONT / SUB / REAR / LED / DRIVE : DX-LM99)


A MAIN C.B
OPTICAL PICK UP
KSS-213F
CN6
FC1
CN1
FOCUS COIL
TRACKING COIL
IC1
LA9241ML
ASP
IC2
LC78622ED
DSP
LASER DIODE ON/OFF
Q1
2SA933S
SLED CONTROL
FOCUS BIAS ADJUST
TP1 (RF)
TP2 (VREF)
X1
16.934M
VIB.XTAL
Q81~Q84
AUDIO MUTE
R-CH
L-CH
A-GND
BRF
RWC
COIN
CQCK
SQOUT
WRQ
5V
D-GND
VREF
IC3
BA5936
MOTOR COIL DRIVER
Q71 2SA1318 T/U
REGULATOR FOR +5V
G DRIVE C.B
CN5
FC2
CN2
M1 (SPINDLE MOTOR)
M2 (SLED MOTOR)
SW1 (INSIDE LIMIT SW)
H LOAD C.B
CN4
FC3
CN3
SW2 (CLOSE SW)
SW3 (OPEN SW)
M3 (LOADING MOTOR)
B FRONT C.B
OP/CL
PAUSE
STOP
PLAY
UP
DOWN
CN202
CN203
CN204
TO REAR C.B CN103
E LED-L C.B
F LED-R C.B
D201
D202
LED SEL2810CXM ILLUMINATION
CN301
CN302
CN101
CN102
CN103
C SUB C.B
Q302~313
CD/DECK MODE SW
IC301
TC74HC154AP
CD AND DECK MODE
Q91~94
REGULATOR
Q101, 102
LED SWITCHING
IC5
GP1F32T
OPTICAL OUTPUT
CN303
CN304
D REAR C.B
CN105
CN104
FROM FX-M99 CN101
FROM TX-LM99 CN201
FROM FRONT C.B CN202
SIGNAL: ➡ PB

IC DESCRIPTION (DX-LM99)

IC, LC78622ED

Pin No.	Pin Name	I/O	Description
1	DEFI	I	Defect detection signal input.
2	TAI	I	Test input. A pull down resistor is built in. Must be connected to 0V.
3	PDO	O	Extenal VCO control phase comparator output.
4	VVSS	–	Internal VCO ground. Must be connected to 0V.
5	ISET	I	PDO output current adjustment resister connection.
6	VVDD	–	Internal VCO power supply.
7	FR	I	VCO frenquency range adjustment.
8	VSS	–	Digital system ground. Must be connected to 0V.
9	EFMO	O	Slice level control. EFM signal output.
10	EFMIN	I	
11	TEST2	I	Test input. A pull down resistor is built in. Must be connected 0V.
12	CLV+	O	Disk motor control output. Three–value output is also possible when specified by microprocessor command.
13	CLV–	O	
14	V/P	O	Rough servo/phase control automatic switching monitor output.
15	HFL	I	Track detection signal input. This is a schmitt input.
16	TEST2	I	Tracking error signal input. This is a schmitt input.
17	TOFF	O	Tracking off output.
18	TGL	O	Tracking gain switching output. Increase the gain when low.
19	JP+	O	Track jump output.
20	JP–	O	Three value output is also possible when specified by micro processor command.
21	PCK	O	EFM data playback clock monitor. Output 4.3219MHz when the phase is locked. (Not used)
22	FSEQ	O	Synchronization signal detection output. (Not used)
23	VDD	–	Digital system power supply.
24	CONT1	I/O	General purposs I/O pin 1.
25	CONT2	I/O	General purposs I/O pin 2.
26	CONT3	I/O	General purposs I/O pin 3. (Not used)
27	CONT4	I/O	General purposs I/O pin 4.
28	CONT5	I/O	General purposs I/O pin 5. (Not used)
29	EMPH	O	De–emphasis monitor pin. A high level indicates playback of a de–emphasis disk. (Not used)
30	C2F	O	C2 flag output. (Not used)
31	D–OUT	O	Digital output.
32	TEST3	I	Test input. A pull down resistor is built in. Mustbe connected to 0V.
33	TEST4		
34	NC	–	Not connected.
35	MUTEL	O	Left channel mute output.
36	LVDD	–	Left channel power supply.
37	LCHO	O	Left channel output.
38	LVSS	–	Left channel ground. Must be connected to 0V.
39	RVSS	–	Right channel ground. Must be connected to 0V.
40	RCHO	O	Right channel output.
41	RVDD	–	Right channel power supply.
42	MUTER	O	Right channel mute output.
43	XVDD	–	Crystal oscillator power supply.
44	XOUT	O	Connections for a 16.9344MHz crystal oscillator element.
45	XIN	I	
46	XVSS	–	Crystal oscillator ground. Must be connected to 0V.
47	SBSY	O	FL segment P23 output/DOBY NR setting switching input. H: Absent. (Not used)
48	EFGL	O	C1, C2 signal and double error correction monitor pin. (Not used)
49	PW	O	Subcode P,Q,R,S,T,U,V and W output. (Not used)
50	SFSY	O	Subcode frame synchronization signal output. (Not used)
51	SBCK	I	Subcode readout clock input. This is a schmitt input. Must bo conneced to 0V
52	FSX	O	Output for the 7.35kHz synchronization signal divided from the crystal oscillator. (Not used)
53	WRQ	O	Subcode Q output standby output.
54	RWC	I	Read/write control input. This is a schmitt input.
55	SQOUT	O	Subcode Q output.
56	COIN	I	Command input from the control microprocessor.
57	CQCK	I	Input for both the command input clock and the subcode readout clock.
58	RES	I	Chip reset input.
59	TST11	O	Test output. Leave open. (Not used)
60	16M	O	16.9344MHz output. (Not used)
61	4.2M	O	4.2336MHz output.
62	TEST5	I	Test input. A pull down resistor is built in. Must be connected to 0V.
63	CS	I	Chip select input. Must be connected to 0V.
64	TEST1	I	Test input. no pull down resistor. Must be connected to 0V.

IC, LA9241ML

Pin No.	Pin Name	I/O	Description
1	FIN2	I	Connected to pickup photo-diode. Positive setting by FIN2 pin generates RF signal, and negative setting does FE signal.
2	FIN1	I	Connected to pickup photo-diode.
3	E	I	Connected to pickup photo-diode.Negative setting by FIN1 pin generates TE signal.
4	F	I	Connected to pickup photo-diode.
5	TB	I	Input DC constituent parts of TE signal.
6	TE–	O	Connected to TE pin with resistor set TE signal gain.
7	TE	O	Output TE signal.
8	TESI	I	Input TES (TRACK ERROR SENCE) comparator. Band pass and input TE signal.
9	SCI	I	Input shock detection.
10	TH	I	Establish tracking gain value.
11	TA	O	TA amplifier output.
12	TD–	I	Compose tracking phase compensation value between TD and VR pins.
13	TD	O	Used for tracking phase compensation setting.
14	JP	I	Establish amplitude of tracking jump signal (kick pulse).
15	TO	O	Output tracking control signal.
16	FD	O	Output focusing control signal.
17	FD–	I	Compose focusing phase compensation value between FD and FA pins.
18	FA	O	Compose focusing phase compensation value between FD- and FA- pins.
19	FA–	I	Compose focusing phase compensation value between FA and FE pins.
20	FE	O	Output FE signal.
21	FE–	I	Connected to FE pin with resistor set FE signal gain.
22	A–GND	—	Analog GND.
23	SP	O	Output single-end for CV+ and CV– pins input signal.
24	SPI	I	Spindle amplifier input.
25	SPG	I	Connect resistor for gain setting at spindle 12cm mode.
26	SP-	I	Connect spindle phase compensation value with SPD pin.
27	SPO	O	Output spindle control signal.
28	SLED	I	Connect sled phase compensation value.
29	SLD	O	Output sled control signal.
30	SL–	I	Input sled sending signal from microcomputer.
31	SL+		
32	JP–	I	Input tracking jump signal from DSP.
33	JP+		
34	TGL	I	Input tracking gain control signal from DSP. TGL = "H" : gain low.
35	TOFF	I	Input tracking off control signal from DSP. TOFF = "H" : off.
36	TES	O	Output TES signal to DSP.
37	HFL	O	HIGH FREQUENCY LEVEL: detects whether main-beam is on bit or mirror position.
38	SLOF	I	Input sled serbo off control.
39	CV–	I	Input CLV error signal from DSP.
40	CV+		
41	RFSM	O	Output RF.
42	RFS–	O	Establish RF gain and 3T compensation value from EFM signal with RFSM pin.
43	SLC	O	SLICE LEVEL CONTROL: control data slice level by DSP with RF wave form.
44	SLI	I	Control data slice level by DSP.
45	D–GND	—	Digital GND.
46	FSC	O	Connected to focus search smoothing capacitor.
47	TBC	I	TRACKING BALANCE CONTROL: establish EF balance variable range.
48	NC	—	Not connected.

Pin No.	Pin Name	I/O	Description
49	DEF	O	Output disk defect detection.
50	CLK	I	Input reference clock. Inputs 4.23 MHz from DSP.
51	CL	I	Input microcomputer command clock.
52	DATA	I	Input microcomputer command data.
53	CE	I	Input microcomputer command chip enables.
54	DRF	O	DETECT RF: Output RF level detection.
55	FSS	I	FOCUS SEARCH SELECT: switches focus search mode (between ± search and ± search against reference voltage). (Not used)
56	VCC2	—	Servo/digital VCC.
57	REFI	—	Connected to reference voltage by pass condenser.
58	VR	O	Output reference voltage.
59	LF2	—	Establish value in detecting disc defect.
60	PH1	—	Connected to capacitor used to hold peak of RF signal.
61	BH1	—	Connected to capacitor used to hold bottom of RF signal.
62	LDD	O	APC-circuit output pin.
63	LDS	I	APC-circuit input pin.
64	VCC1	—	RF VCC.

IC, BU4094BCF

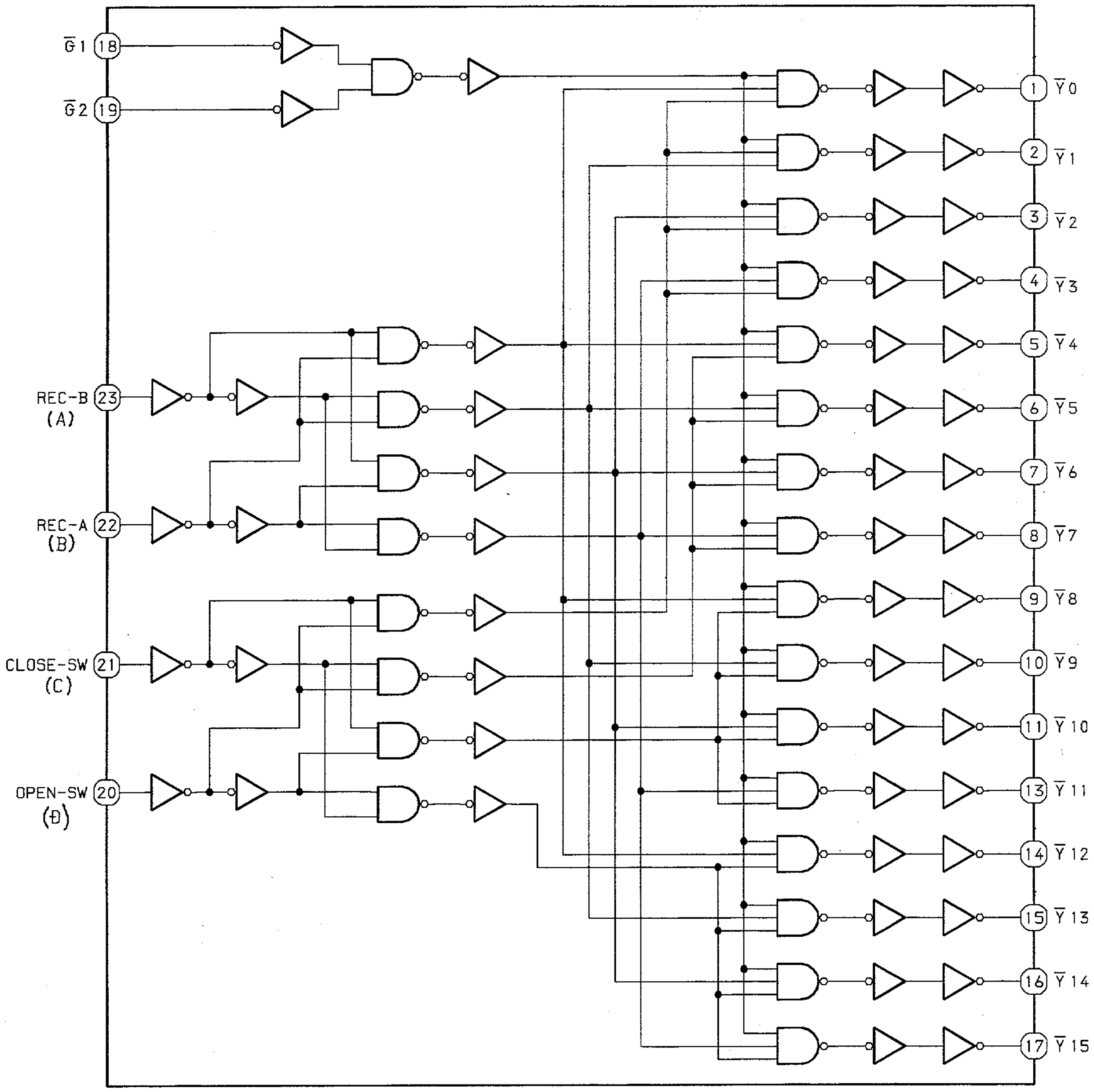
Pin No.	Pin Name	I/O	Description
1	STB	I	STB input.
2	DATA	I	Data input.
3	CLOCK	I	Clock input.
4	CD ON	O	CD ON output.
5	OPEN	O	Open output.
6	CLOSE	O	Close output.
7	LED ON	O	LED ON/OFF.
8	GND	-	Connect to ground.
9	NC	-	Not connected.
10	NC	-	Not connected.
11	NC	-	Not connected.
12	NC	-	Not connected.
13	NC	-	Not connected.
14	NC	-	Not connected.
15	DE	I	Data enable.
16	VDD	-	Voltage input.

IC, BA5936

Pin No.	Pin Name	I/O	Description
1	SL-OUT (–)	O	Seld output –.
2	SL-OUT (+)	O	Seld output +.
3	SP-OUT (–)	O	Spindle output –.
4	SP-OUT (+)	O	Spindle output +.
5	SP-IN	I	Spindle input.
6	SL-IN	I	Sled input.
7	VCC	–	Voltage input.
8	VCC	–	Voltage input.
9	REG-IN	I	Reg current input.
10	REG-BASE	I	Tr BASE connect.
11	REG-OUT	O	Reg output.
12	CLOSE	I	Close input.
13	OPEN	I	Open input.
14	OUT (+)	O	OP/CL output +.
15	OUT (+)	O	OP/CL output –.
16	GND	–	Connect to ground.
17	TE–OUT(–)	O	TE output –.
18	TE–OUT(+)	O	TE output +.
19	FE–OUT(–)	O	FE output –.
20	FE–OUT(+)	O	FE output +.
21	FE–IN	I	FE input.
22	TE–IN	I	TE input.
23	VCC	–	Voltage input. (Not used)
24	BIAS	I	Bias input.
25	GND	–	Connect to ground.
26	GND	–	Connect to ground.
27	MUTE IN	I	Mute input.
28	IN6–R	–	Not used.
29	IN6–F	–	Not used.
30	OUT6(+)	–	Not used.
31	OUT6(–)	–	Not used.
32	GND	–	Connect to ground.

IC BLOCK DIAGRAM (DX-LM99)

IC, TC74HC154AP



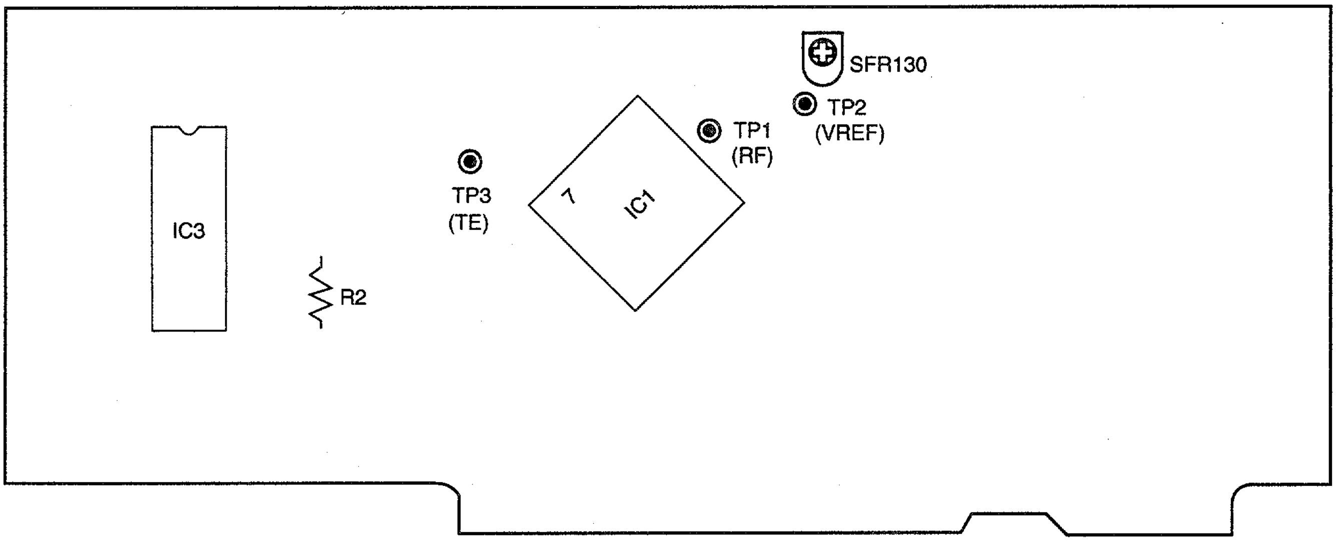
$\overline{G}$1 18
$\overline{G}$2 19
REC-B 23 (A)
REC-A 22 (B)
CLOSE-SW 21 (C)
OPEN-SW 20 (Đ)
1 $\overline{Y}$0
2 $\overline{Y}$1
3 $\overline{Y}$2
4 $\overline{Y}$3
5 $\overline{Y}$4
6 $\overline{Y}$5
7 $\overline{Y}$6
8 $\overline{Y}$7
9 $\overline{Y}$8
10 $\overline{Y}$9
11 $\overline{Y}$10
13 $\overline{Y}$11
14 $\overline{Y}$12
15 $\overline{Y}$13
16 $\overline{Y}$14
17 $\overline{Y}$15

INPUT						SELECTED OUTPUT (L)
$\overline{G}$1	$\overline{G}$2	Đ	C	B	A	
L	L	L	L	L	L	$\overline{Y}$0
L	L	L	L	L	H	$\overline{Y}$1
L	L	L	L	H	L	$\overline{Y}$2
L	L	L	L	H	H	$\overline{Y}$3
L	L	L	H	L	L	$\overline{Y}$4
L	L	L	H	L	H	$\overline{Y}$5
L	L	L	H	H	L	$\overline{Y}$6
L	L	L	H	H	H	$\overline{Y}$7
L	L	H	L	L	L	$\overline{Y}$8
L	L	H	L	L	H	$\overline{Y}$9
L	L	H	L	H	L	$\overline{Y}$10
L	L	H	L	H	H	$\overline{Y}$11
L	L	H	H	L	L	$\overline{Y}$12
L	L	H	H	L	H	$\overline{Y}$13
L	L	H	H	H	L	$\overline{Y}$14
L	L	H	H	H	H	$\overline{Y}$15
X	H	X	X	X	X	NONE
H	X	X	X	X	X	NONE

X:ĐON'T CARE

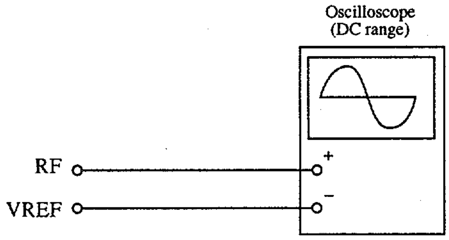
ADJUSTMENT (DX-LM99)

A MAIN C.B

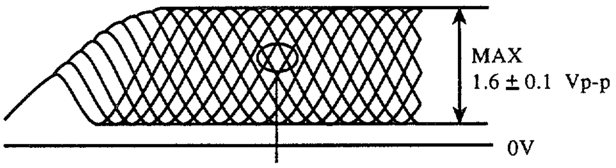

SFR130
TP2
(VREF)
TP1
(RF)
TP3
(TE)
IC1
1
IC3
R2

Note: Connect the probe (10:1) to adjust.
For adjustment, connect the negative side ⊖ of oscilloscope to TP2 (VREF).

1. Focus bias adjustment
   This adjustment is applied when the optical block is replaced/repaired.


Oscilloscope
(DC range)
RF
VREF
+
−

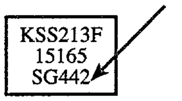
1) Connect oscilloscope to test point (TP1)RF and (TP2)VREF
2) Set the POWER switch to ON.
   Insert the test disk TCD-782 (YEDS-18), and play the second track.
   Adjust SFR130 so that the amplitude of wave form of the oscilloscope reaches maximum and the diamond shape in the center becomes clear.


MAX
1.6 ± 0.1 Vp-p
0V

EYE PATTERN
must be CLEAR and MAX.

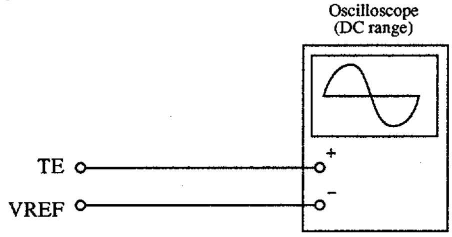
VOLT/DIV: 0.5V
TIME/DIV: 0.5μS

3) Laser electrical current check
   Laser electrical current is checked at R2 (both ends of 10Ω voltage). Check that laser electrical current is (6.0mA against the electrical current value specified on the back label of laser pickup.

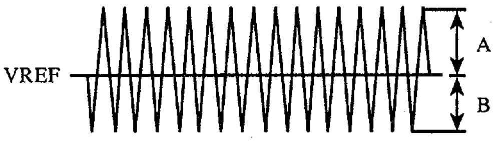

44.2mA
KSS213F
15165
SG442

$$\text{Laser electrical current lop} = \frac{\text{Both ends voltage of R2}}{10\Omega}$$

2. Tracking balance check


Oscilloscope
(DC range)
TE
VREF
+
−

1) Connect oscilloscope to the test point (TP3)TE and (TP2)Vref.
2) Start CD test mode.
3) Insert the test disk TCD-782 (YEDS-18), and set to traverse mode of CD test mode.
4) Check that the traverse wave forms of oscilloscope make symmetrical ups and downs as follows.
5) After checking, quit CD test mode.



A=B

VOLT/DIV: 20mV
TIME/DIV: 1mS

TEST MODE (DX-LM99)

1 Activate CD test mode
Press and hold ▶ button of the CD deck (DX-LM99), and put the AC plug into an outlet.
When CD test mode is started, all the displays are lit.

2 Quitting CD test mode
Press the POWER key or the function keys, which are not for CD operation, or remove the AC plug from the outlet to quit CD test mode.

3 Description of test mode functions

MODE	Operation	Display	Action	Details
Start mode	Test mode starts	All are lit.	–	–
Search mode	■	CD	Sequential focus search PU lens repeats full-swings Note 1	Checks APC circuit. Measures laser electric current. Checks focus error waveforms.
Play mode	▶	Track No. display. Playing time is displayed	Normal replay. If TOC READ is not available, the search mode action is applied	Focus servo. Tracking servo. CLY servo. Sled servo.
Traverse mode	❚❚	Track No. display. Playing time display flashes	Replay pose status	Tracking Servo OFF.
Sled mode	▶▶button ◀◀button	CD Test	Moves to pickup inner track. Moves to pickup outer track.	Sled servo. Checks mechanical action.

Note 1
When focus search is operated continuously for more than 10 minutes, the protection circuit becomes activated due to the generation of heat from the driver IC, and CD may not work. In this case, turn off the power, and leave for about 10 minutes to release the hear before restarting.

MECHANICAL PARTS LIST (DX-LM99)

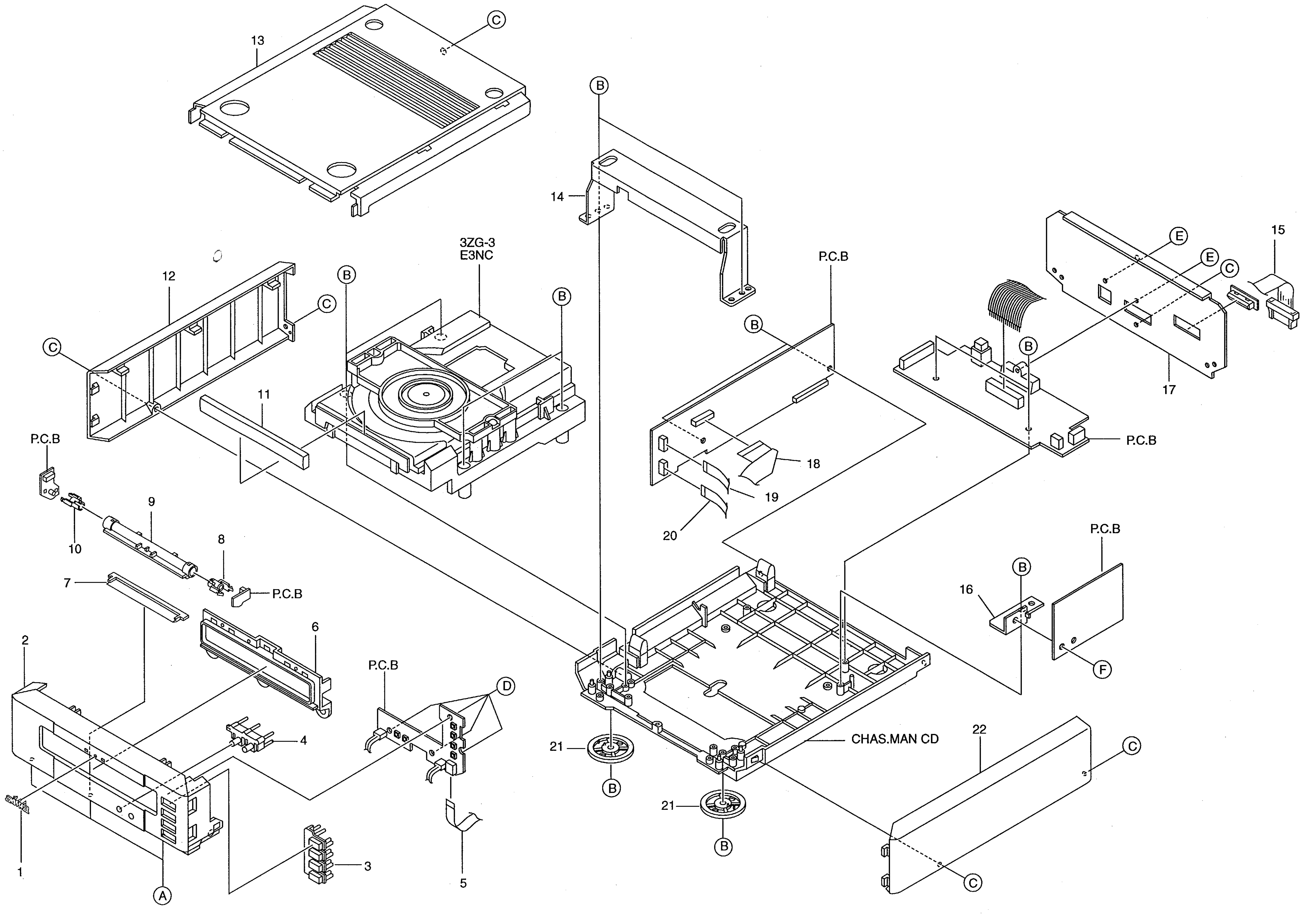
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-CC3-007-010		BADGE,AIWA 27.5 ABS SIL
2	8Z-CX3-001-010		CABI,FR CD
3	8Z-CX3-005-010		KEY,PLAY CD
4	8Z-CC3-005-010		KEY,UP DOWN
5	88-904-261-110		FF-CABLE, 4P 1.25 260MM
6	8Z-CX3-004-010		RING,CD
7	8Z-CE3-007-010		REFLECTOR,FR
8	8Z-CE3-204-010		GUIDE,LED R
9	8Z-CE3-202-010		GUIDE,LED CNT
10	8Z-CE3-203-010		GUIDE,LED L
11	8Z-CX3-003-010		PANEL,TRAY
12	8Z-CX3-006-010		PANEL,SIDE L HIGH CD
13	8Z-CE3-005-010		PANEL,TOP
14	8Z-CX3-202-010		PLATE,TOP CD
15	8Z-CX3-607-010		CONN ASSY,20P 52305-2011
16	8Z-CX3-204-010		HLDR,PWB CD
17	8Z-CX3-012-010		PANEL,REAR CD (Y)
18	8Z-CX3-608-010		FF-CABLE, 16P 1.0 320MM
19	88-906-321-110		FF-CABLE, 6P 1.25 320MM
20	88-905-111-110		FF-CABLE, 5P 1.25 110MM
21	8Z-CE3-006-010		FOOT,DIA40 H4
22	8Z-CX3-007-010		PANEL,SIDE R HIGH CD
A	87-721-096-410		QT2+3-10 GLD
B	87-067-703-010		TAPPING SCREW, BVT2+3-10
C	87-067-761-010		TAPPING SCREW, BVT2+3-10
D	87-078-060-010		BVIT3PB+3-10
E	87-067-660-010		TAPPING SCREW, BVT2+3-8
F	87-067-584-010		TAPPING SCREW, BVT2+3-6

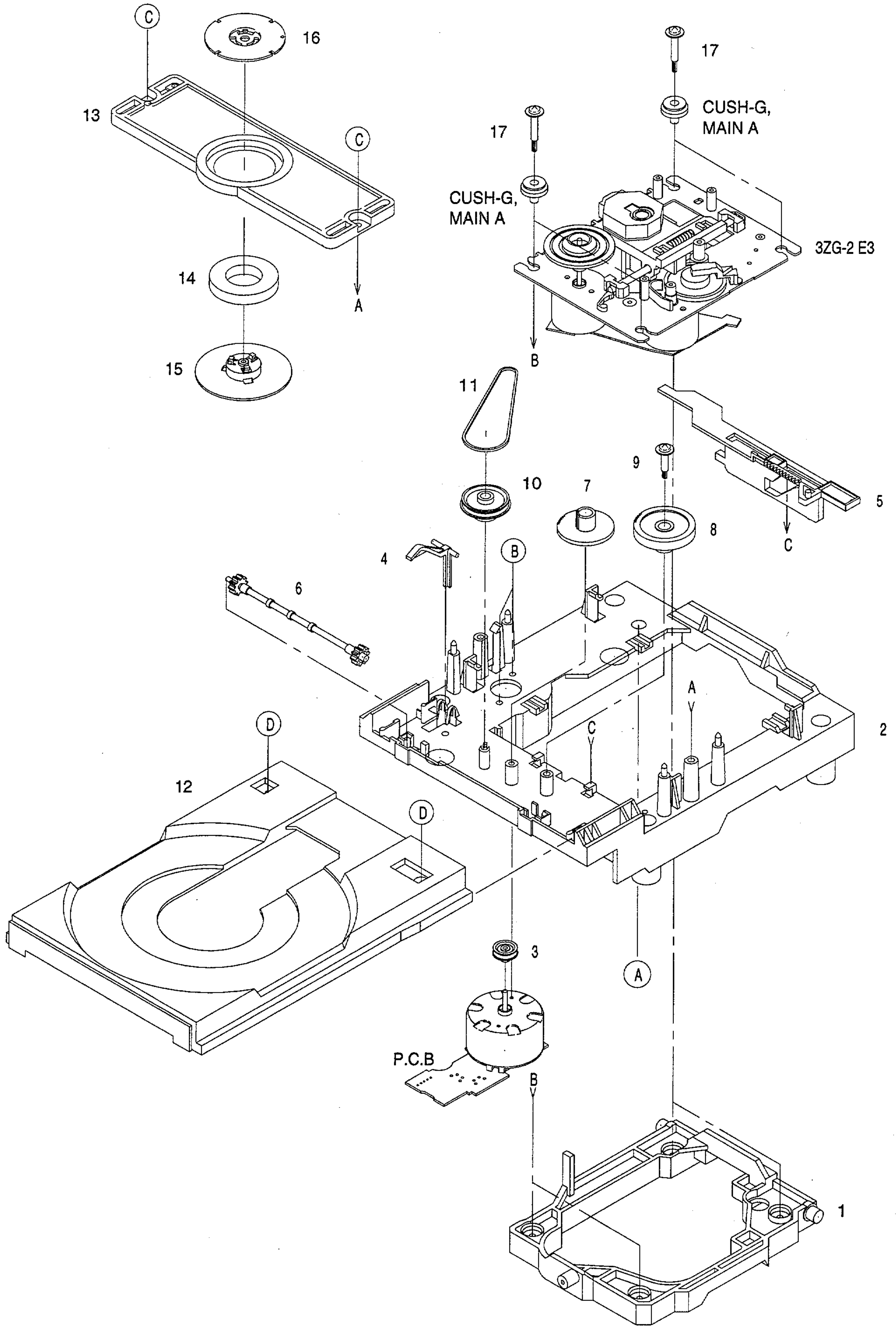
COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

MECHANICAL EXPLODED VIEW 1 / 1 (DX-LM99)


13
C
B
14
3ZG-3
E3NC
12
C
B
B
C
P.C.B
B
E
E
C
15
B
17
11
P.C.B
P.C.B
18
9
19
10
20
8
P.C.B
7
P.C.B
16
B
6
2
P.C.B
D
F
4
21
CHAS.MAN CD
22
C
B
21
B
1
3
5
A
C

CD MECHANISM EXPLODED VIEW 1 / 2 (DX-LM99)

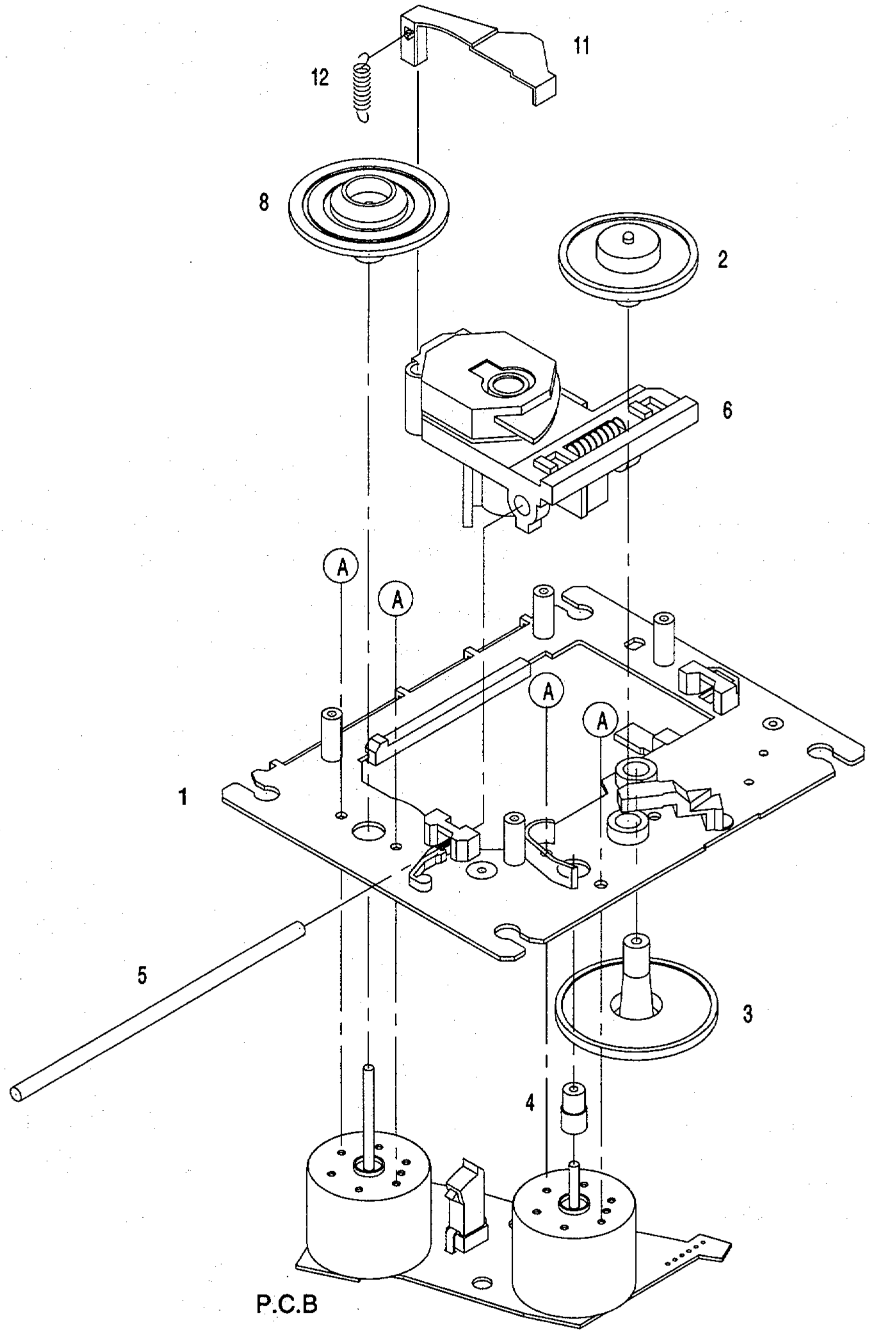

C
16
17
13
C
CUSH-G,
MAIN A
17
CUSH-G,
MAIN A
3ZG-2 E3
14
A
15
B
11
9
10
7
8
5
C
4
B
6
A
2
D
C
12
D
3
A
P.C.B
B
1

CD MECHANISM PARTS LIST 1 / 2 (DX-LM99)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG3-224-510		HLDR M2
2	83-ZG3-228-610		CHAS,L6
3	83-ZG3-208-010		PULLEY,MOTOR
4	83-ZG3-213-010		LVR,SW
5	83-ZG3-209-610		CAM,SLIDE
6	83-ZG3-207-010		GEAR,TRAY
7	83-ZG3-204-210		GEAR,C
8	83-ZG3-205-010		GEAR,D
9	83-ZG3-217-010		S-SCREW,GEAR D
10	83-ZG3-220-210		GEAR,PULLEY 2
11	83-ZG3-214-010		BELT,L
12	83-ZG3-229-410		TRAY,CD 2
13	83-ZG3-210-110		HLDR,CHUCK
14	83-ZG3-602-010		RING,MAG
15	83-ZG3-212-010		CAP,DISC
16	83-ZG3-211-010		PLATE,DISC
17	81-ZG1-254-010		S-SCREW,MECH HLDR
A	87-067-945-110		VFT2+3-12(F10)
B	87-251-071-410		U+2.6-4
C	87-512-074-210		SCREW, 2+2.6-8
D	87-352-075-210		VT2+2.6-10

CD MECHANISM EXPLODED VIEW 2 / 2 (DX-LM99)



CD MECHANISM PARTS LIST 2 / 2 (DX-LM99)

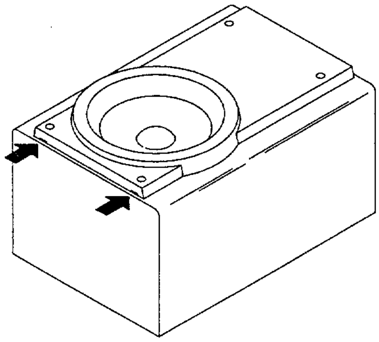
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-243-210		CHAS ASSY,SHT
2	83-ZG2-235-010		GEAR,A3
3	83-ZG2-205-210		GEAR,B
4	83-ZG2-236-010		GEAR MOTOR 3
5	83-ZG2-253-010		SHAFT,SLIDE 5
6	87-A90-836-010		PICKUP,KSS-213F
8	83-ZG2-227-210		TURN TABLE,C1
11	83-ZG2-245-410		LEVER,SHUTTER
12	83-ZG2-250-110		SPR-E,SHT 2
A	87-261-032-210		SCREW V+2-3

SPEAKER DISASSEMBLY INSTRUCTIONS

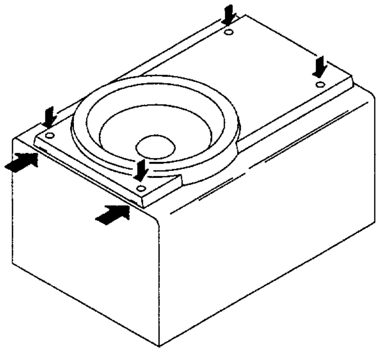
Type.1

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



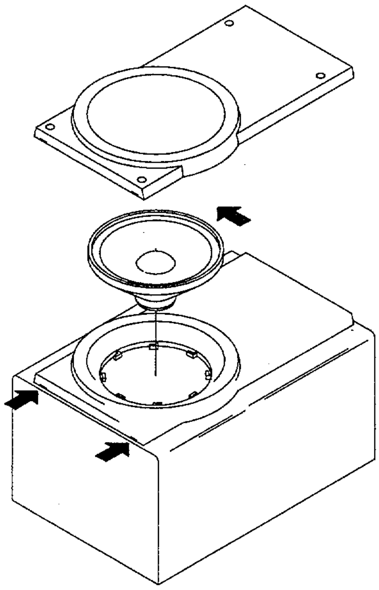
Type.2

Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver. Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.

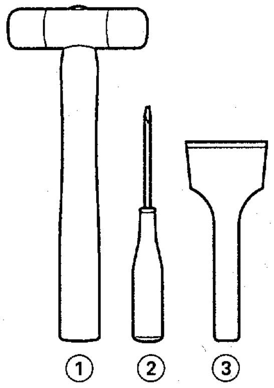


Type.3

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counter-clockwise direction while inserting a flat-bladed screwdriver into one of the hollows around speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



Type.4



TOOLS

① Plastic head hammer
② (⊖) flat head screwdriver
③ Cut chisel

How to Remove the PANEL, FR

1. Insert the (⊖) flat head screwdriver tip into the gap between the PANEL, FR and the PANEL, SPKR. Tap the head of the (⊖) flat head screwdriver with the plastic hammer head, and create the clearance as shown in Fig-1.

2. Insert the cut chisel in the clearance, and tap the head of the cut chisel with plastic hammer as shown in Fig-2, to remove the PANEL, FR.

3. Place the speaker horizontally. Tap head of the cut chisel with plastic hammer as shown in Fig-3, and remove the PANEL, FR completely.

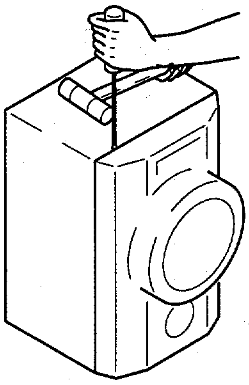


Fig-1

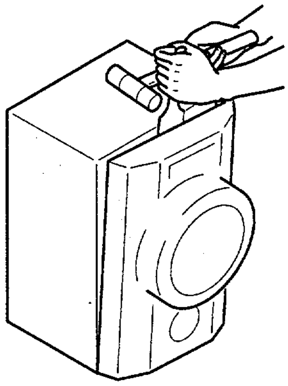


Fig-2

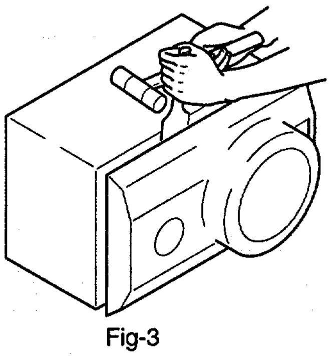


Fig-3

How to Attach the PANEL, FR

Attach the PANEL, FR to the PANEL, SPKR. Tap the four corners of the PANEL, FR with the plastic hammer to fit the PANEL, FR into the PANEL, SPKR completely.

SPEAKER PARTS LIST (SX-LM99 <YJTN>)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-CP3-010-010		CORD,SP
2	8Z-CP3-002-010		GRILLE,FRAME ASSY
3	8Z-CP3-007-010		HLDR,TW
4	8Z-CP3-013-010		PANEL,FR L
5	8Z-CP3-014-010		PANEL,FR R
6	8Z-CP3-008-010		PANEL,PACKING TW
7	8Z-CP3-006-010		PANEL,TW
8	8Z-CP3-005-010		PANEL,W
9	8Z-CP3-602-010		SPKR, W
10	88-NSV-601-010		TERMINAL,ASSY

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

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番号	連絡内容
G— —	
G— —	
G— —	

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